Inverse care ? : comparing needs and satisfaction with services between prisoners in health care centres and patients in forensic medium secure units

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Inverse Care? Comparing Needs and Satisfaction with Services between Prisoners in Health Care Centres and Patients in Forensic Medium Secure Units

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Abstract

This thesis describes a study that compared the needs of patients in contact with mental health services in inpatient healthcare units (HCC prisoners) with the needs of patients in NHS Medium Security Psychiatric Units (MSU inpatients). The principal research question was whether prisons could adequately provide health services to meet the needs of prisoners with mental health problems, or whether they should be transferred to NHS psychiatric services. Five experimental hypotheses were investigated:

1. HCC prisoners will have the same number of needs as MSU inpatients but significantly more unmet needs
2. Satisfaction with services will be significantly higher in HCC prisoners than in patients in MSUs
3. Profiles of need will differ significantly between HCC prisoners and MSU inpatients
4. There will be a significant association between patient views of satisfaction and need
5. HCC prisoners will accrue significantly less costs in relation to service contacts as compared to MSU inpatients

There was support for Hypothesis 1. There were no differences in the total number of needs reported by HCC prisoners and MSU inpatients, but HCC prisoners reported significantly more of their needs to be unmet compared to MSU inpatients.

There was no support for Hypothesis 2. In fact, the opposite was found with HCC prisoners reporting lower levels of satisfaction with all aspects of care and treatment received from the services.

There was some support for Hypothesis 3. Significant differences were found with individual needs, physical health problems and placement needs. Apart from these differences, the two groups were broadly similar.

There was support for Hypothesis 4. Higher levels of satisfaction with services were associated with lower levels of unmet need.

There was no support for Hypothesis 5. HCC prisoners accrued significantly higher service contact costs than MSU inpatients, but these differences were explained by court costs, mainly at one of the prison sites. When court costs were excluded, there were no differences in service contact costs between HCC prisoners and MSU inpatients.

This study suggests that HCC prisoners have high levels of unmet need and are less satisfied with all aspects of their care and treatment as compared to MSU inpatients. This suggests that HCC prisoners are not receiving the same quality and range of health care services as they could receive in NHS medium security psychiatric units. However there is a strong argument for improving health services in prisons rather than transferring mentally ill prisoners to NHS services.

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For Samantha and Zachary

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Introduction

This thesis describes the development, conduct, and findings of a study that compared mental health care services in two prisons with NHS medium security psychiatric services in and around South East London. The principal research question of interest was to determine whether prisons could adequately provide mental health services to meet the needs of prisoners with mental health problems or whether we should be transferring all mentally ill prisoners to NHS psychiatric facilities. Each of the opening Chapters therefore has a specific remit; firstly to introduce and describe the key outcomes under investigation, and then to go on and consider the populations under study and to describe what is known about them in relation to developing the overall aims and methodology for the study.

Chapter 1 starts by describing outcome assessment, how it has developed conceptually and how it has been applied to service evaluation. Need, satisfaction and service utilization are introduced and discussed in relation to health services research. Additional considerations are discussed in relation to forensic mental health services.

Chapter 2 considers the development and functioning of health care services in prisons in England and Wales. Studies detailing the mental health of prison populations are considered and the characteristics of the prisoners and services described.

Chapter 3 describes medium secure psychiatric services from two main approaches: firstly using a top down approach describing the services themselves; then secondly from a bottom-up approach, describing the characteristics of the patients in medium security psychiatric units.

The rationale underpinning the study and the methodology are described in **Chapter 4.**

The overall characteristics of the sample are reported in **Chapter 5** in terms of descriptive statistics, key comparisons and multivariate analyses to characterise the HCC prisoner and MSU inpatient groups.

Chapter 6 reports the service use reported by the health care centre (HCC) prisoners and medium secure unit (MSU) inpatients and the costs associated with these contacts.

Chapter 7 describes further analyses that sought to compare the characteristics of those who reported high or low levels of unmet need.

Chapter 8 is the discussion, summarising the key findings in relation to the overall research question and experimental hypotheses and suggesting areas for future investigation/inquiry.

A full list of references is provided in **Chapter 9.**

Finally **Chapter 10** contains a number of Appendices including all of the scales used in the study.

Chapter 1: The Use of Outcome Measures in Health Services Research

Good practice dictates that we should be continuously monitoring and evaluating mental health service provision to encourage the highest standards of treatment and care possible. In order to strive towards, or achieve, such a goal it is necessary to measure the services that are being provided and determine if and how these services can be improved. Central directives, policy changes and the continued evolution of the National Health Service (NHS) have all contributed to a need to develop methods for assessing and measuring various health interventions, treatments and outcomes. Central to this is the overall goal of improving the quality and range of health care services available.

What are outcomes and how do we measure them?

At their crudest level outcomes can be defined in terms of whether people get better as a result of their contact with health services (Clifford, 1998). Therefore, outcomes refer to changes in the health status of people over a period of time. Huxley (1998) suggests that considering an outcome in relation to a single dimension, such as unemployment levels, would be an oversimplification of the concept and a fundamental error in judgement. Therefore, generally speaking, there is a need to consider outcomes in multiple dimensions.

A number of conceptual guidelines have been developed for use as guiding principles when assessing outcomes. One of the most thorough of these has been the comprehensive review of clinical research by Attkisson, Cook, Karno, Lehman, McGlashan, Meltzer,

O'Connor, Richardson, Rosenblatt, Wells, & Williams (1992). They argued that outcome assessment should be considered according to seven guiding principles. These were:

1. That the outcomes are multi-dimensional and cover what Hargreaves and Shumway (1989) differentiated as: clinical goals that improve, treat or cure illness and reduce symptoms; rehabilitative goals that seek to restore and maximise functional independence; humanistic goals that seek to maximise the individuals sense of well-being; and public safety goals which have the overriding goals of preventing any injury to self or others.
2. That the outcomes must include multiple perspectives so that a whole range of different viewpoints can be brought together and reviewed as a coherent whole.
3. That the outcomes are sensitive enough to be able to detect and document individual level differences including different cultural and religious views on health and social care needs.
4. That the outcomes are measured using standardised assessments with standard designs to enable comparisons to be drawn between and within different health care services that are valid and reliable, and with high specificity so that changes can be picked up (World Health Organisation, 1981).
5. That the outcomes are considered longitudinally. The authors argued that outcomes are dependent on how time frames and circumstances are defined and therefore that they are unstable over time. They therefore argued the need to specify time frames of reference for the outcomes being measured so that any such changes can be measured and monitored over time.

6. That the outcomes are considered in relation to the cost of the services being provided. They argued that the costs incurred should not be considered in isolation, but rather in relation to the perceived effectiveness of any interventions applied.
7. That the outcomes are considered in terms of their relevance and impact in three areas: scientific relevance based on best available evidence; how they impact on clinical practice; and lastly how they relate to policy and legislative reform.

Another model of outcome assessment, developed in relation to mental health services by Jenkins (1990), states that we need to evaluate the efficacy of health promotion and illness-prevention programmes, as these evaluations have the knock on effect of informing the reform and refinement of resource allocation. She suggests a model for developing self-monitoring outcome indicators based on the collection of baseline data, with individuals then followed up prospectively and longitudinally to measure the impact of health programmes between and within District Health Authorities. She argues that in addition to considering what she referred to as 'global indicators' of health there is a need to consider disease or illness specific indicators of change in relation to disease prevention, the alleviation of symptoms and the improvements in functioning.

Jenkins (1990) defines an indicator as "*a measure that summarises information relevant to a particular phenomenon... or proxy...*" and describes them according to a systems model with three discrete phases – an input phase, a process phase and an outcome phase. She suggests a range of outcome indicators commonly used in health care; including crude mortality and morbidity rates, subjective outcome measures that detail the viewpoints of users of the services being investigated, direct measures of health and social functioning, and unmet need. She argues that the last two of these appear to be the most relevant to use

as health outcome indicators, with unmet needs acting as useful indicators of health status. Jenkins (1990) proposes that each of her health indicators has positive outcomes relating to reducing incidence rates, levels of disability and deterioration in health, and the improvement of routine monitoring of rates of service utilization.

Two criticisms can be levelled at this framework; namely that parts of her model are now out of date and not directly transferable to the current situation (e.g., Cohen & Eastman, 1997); and secondly that splitting outcomes according to different diagnostic categories at the population level is an over-simplification of the problem that does not account for individual differences in levels of functioning, nor the high levels of co-morbidity between different mental disorders.

A service-based model of outcome, incorporating both clinician and user views, has been proposed by Clifford (1998). His 6 M's model suggests that outcomes should be: (1) multi-axial - measuring multiple health, social and functional dimensions; (2) multi-perspective – incorporating different perspectives, such as the clinician's perceptions of health and social change and user views of quality of life issues; (3) multi-functional – so that they are feasible, serving several useful purposes and therefore not seen as mere paperwork tasks; (4) multi-disciplinary – so that they are applicable to different health professionals and therefore widely useable; (5) multi-agency – so that they are informative across different services; and (6) multi-site – so that comparisons can be made between services and with normative data. In applying this model in practice Clifford argues the need to have a core set of objective outcomes coupled with more subjective indicators of the appropriateness of the care provided and it's impact. The advantage of this model over Jenkins' (1990) model is that it considers information of individual level problems specific

outcomes in addition to a core battery of outcomes that are consistent to all problems and services.

An alternative to the diagnostically defined and perhaps out of date models by Jenkins (1990) and Attkisson and colleagues (1992), and broadening the scope of the Clifford model, is the 'Matrix Model' developed by Tansella and Thornicroft (1998). The Matrix Model defines outcomes in relation to changes in functioning, morbidity and mortality. Thornicroft and Tansella (1996) argue that outcome measures can be conceptualised in two dimensions: a 'geographical' dimension and a 'temporal' dimension. The geographical dimension has three different levels of outcome evaluation; outcomes at individual (patient) levels, team levels and national levels. The temporal dimension is also defined with three phases; an input phase, a process phase, and an outcome phase. Cross-tabulating these two dimensions into a 3x3 matrix creates a series of cells, which detail the level of assessment indicated at each geographical level (input), the content of the outcome assessments required at each of these levels (process), and lastly the types of direct or indirect outcomes that these levels of enquiry will produce (outcome). It has been argued that following this kind of multidimensional model of outcome measurement promotes the development, running and evaluation of evidence-based mental health services (e.g., Geddes, Reynolds, Streiner, & Szatmari, 1997).

Slade, Thornicroft and Glover (1999) argue that there is an increasing need to prioritise the development of routine outcome measures that are practical and feasible enough to be incorporated into clinical practice. They argue this stance with reference to the geographical dimensions of the Tansella and Thornicroft (1998) Matrix Model. At the patient level they differentiate between standardised and unstandardised outcomes. Like

Attkisson *et al* (1992), they reinforce the need to use standardised outcomes, describing them as formal assessment instruments with sound psychometric properties, so they measure what they intend to measure (i.e., they are valid), they produce reliable and reproducible results, and they are sensitive enough to pick up clinically relevant changes in presentation/symptomatology. Slade, Thornicroft and Glover (1999) also describe unstandardised patient level outcomes, such as clinical judgement. However, not wishing to discount the expertise and levels of experience associated with clinical judgement they, like Jenkins (1990) and Clifford (1998), suggest that this approach should be used in conjunction with other standardised methods wherever possible and practical. They describe team level outcomes as a sum of the individual level data that are collected in a service. They argue that these aggregate data can be interpreted in relation to the clinical competency and service development needs of the team, thereby highlighting service gaps and pockets of good practice. Finally Slade, Thornicroft and Glover (1999) go on to define national level outcomes in accordance with those data collected at individual and team levels and are used to monitor centrally determined governmental targets for health improvements with an over-arching aim of developing an evidence based national policy.

The literature suggests that the solution to measuring outcome is to consider multiple outcomes, in multiple dimensions, from different perspectives, alongside more objective clinically rated outcomes, and process variables (Slade, 2002).

The additional problems of definition and mental health research

Some commentators have argued that there may be some specific complications when trying to develop outcome measures for use in mental health services (e.g., Cohen & Eastman, 2000a). This is due to operational difficulties of setting standards (e.g., Tyrer,

1999) from either an individual patient outcome level, which is subjective, or from a service outcome level (e.g., Jenkins, 1990). The multi-dimensionality of mental disorders is a further complication. It can be problematic to determine whether a specific intervention or treatment actually led to the positive health outcome of interest. This is because mental illnesses can affect people on social, psychological and functional levels as well as clinically (e.g., Lehman, 1996).

There are additional problems with defining what constitutes a positive outcome, as interventions can in fact lead to negative outcomes depending on the viewpoint taken, as well as different perceptions on what constitutes disability or illness (e.g., Knight, Stewart-Brown & Fletcher, 2001). Furthermore the relationship between 'intervention' and 'outcome' is all too often considered causal without routinely considering alternative explanations of the perceived strength and direction of the relationship observed, which might actually be a result of confounding (Ovretveit, 1995).

Taking this debate forward, Slade (2002) identified five reasons why measuring outcome in mental health services can be difficult. These were that: (1) the effect of treatment might be slow to decline or to maintain so an outcome measure could in fact get worse in spite of the patient receiving the best quality care; (2) studies have suggested that clinical and social variables predict at best 30% of the variance in an individual's quality of life; (3) different types of outcome change at different rates during and after an intervention leading to difficulties in measuring outcomes consistently; (4) a lack of consensus about what constitutes positive change in a person; and (5) mental health services provide different levels of service, from individual treatments to multidisciplinary packages of

care, to services for a defined population and the outcome measures required to evaluate these components will be different.

Slade & Glover (2000) conclude that there is still confusion about outcome measurement due to a continued lack of consensus about how to measure outcome in general, and more specifically, with what is actually being measured, due to the issues of multi-dimensionality and temporality of both objective and subjective outcome indicators. In spite of these difficulties, it is a required component for services to conduct health care needs assessments (e.g., NHS Management Executive, 1991). This leads on to the next and perhaps most fundamental problem with outcome assessment; that is defining specific outcomes.

Defining outcomes of interest

Central to NHS Management Executive requirements for health care needs assessments is the concept of the 'ability to benefit'. Stevens & Rafferty (1994) suggest that we should not identify who is 'needy', but rather what kind of health services are needed by whom. They argue that this 'service need' does not necessarily guarantee outcomes to be favourable but rather that the potential to benefit is generally perceived to be effective. Prevention, diagnosis, continuing care, rehabilitation and palliative care are included in their model, in addition to treatment as 'health care needs'. They argue that benefit is not just measured according to clinical status but multi-dimensionally, covering multiple perspectives in relation to social impact and the impact of a single or a series of interventions on families and carers.

The ability to benefit is based on a normative approach to health care needs assessment where identifiable services are in place to address/treat/ameliorate the identified health problems. Stevens and Rafferty (1994) describe a micro-economic triangulation between need (what people might benefit from), demand (use of health services) and supply (what is actually provided by health services) and how market influences in relation to supply inevitably influence need and demand for health care services. The ability to benefit is therefore inextricably linked to outcome (Cohen & Eastman, 2000a). Such models of needs-based service provision and the identification of need using this approach can be used to monitor the capacity of a health service to care for the sick population, and hence have the knock-on effect of improving the health status of the population (e.g., Carr & Wolfe, 1979).

Developing services according to the needs of the people in the locality as opposed to the needs of the hospital/unit is a stance recommended by both voluntary (e.g., MIND, 1983), clinical (e.g., Royal College of Psychiatrists, 1990) and service user groups (e.g., Rose, 2000). When using this approach special consideration should be placed on patients who have special needs, such as those with physical health problems, mental retardation and those who are homeless or imprisoned as they have additional problems relating to access to care (Strathdee & Thornicroft, 1992; Department of Health, 1999a). Using this kind of bottom-up approach to assessing health care needs can be useful in building a picture of the 'social disablement' of the population under study (Slade & Glover, 2000). It is argued that having a sufficient number of people with a particular health care need identified in the population could warrant the development or funding of a new service or type of intervention to address the needs identified, such as more evening classes to meet

educational needs, more midwives to work with pregnant women, or perhaps a meals-on-wheels service for those who cannot cook for themselves due to illness or disability.

Defining need

The first step in conceptualising what is meant by need in relation to outcome assessment is to consider what it is we are interesting in looking at. The perspective adopted will depend on the outcome of interest. Taking the Matrix Model framework (Tansella & Thornicroft, 1998), need can therefore be conceptualised at an individual, team (or service) and population level.

The Community Care Act of 1990 states that 'need' relates to maintaining or restoring 'acceptable levels of social independence and quality of life'. However need can also be defined according to its purpose. For example Stevens & Gillam (1998) describe needs assessment as an information gathering process, which is used to improve the health of the particular population under study.

Slade and Glover (2000) define needs in terms of a means to informing service provision. Therefore, at an individual level care should be provided on the basis of need, and at a population level the allocation of funds would be dependent upon the aggregated needs of that population. They conclude that assessing need inevitably requires a degree of compromise between what is thought of as desirable information and what is actually attainable on a routine basis.

So it can be argued a need is present when something is lacking which, if received, would improve the person's 'quality' or 'standard' of daily life in some way. Needs can be seen

as universal, but are particular to the individual and can change according to the receipt of some kind of intervention or 'help'.

What remains clear is the continued importance of needs assessments for planning, development and evaluation of mental health services (NHS Executive, 1998). Due to the continued lack of consensus, from both academics and clinicians, about what need is and how in turn it is defined (e.g., Holloway, 1994) the general principle adopted has been to define need in terms of essentials of life that are not present (Johnson, Thornicroft, Phelan & Slade, 2001).

Assessing Need

What is widely acknowledged is that needs can change according to time, place and circumstances. Therefore when a needs assessment instrument is developed it should, at least broadly, take account of all possible needs in the study population. Johnson and colleagues (2001) set out a number of guiding principles that the 'ideal' needs assessment would have. Ideally, it should be brief and quick to administer, easily learned so lengthy formal training is not required, and it should be possible to use as part of routine clinical work without adding to people's workloads. The instrument should have adequate psychometric properties, i.e., sufficient levels of reliability and validity and, perhaps most importantly the assessment should actually inform clinical practice (e.g., Thornicroft & Bebbington, 1996). Problems associated between bridging the 'gap' between academic research and routine clinical practice are frequently reported, so needs assessment instruments should be suitable for routine clinical implementation and therefore should provide some information or structure worthy of the added time commitment associated with completing more 'paperwork exercises'. A number of needs assessments have been

developed, which reflect the variety of approaches to defining and assessing need either objectively or subjectively.

The MRC Needs For Care Assessment

The Medical Research Council Needs For Care Assessment (MRC-NFCA) (Brewin, Wing, Mangen, Brughra & MacCarthy, 1987; Brewin & Wing, 1989) defines a need as 'present' when an individual's level of functioning falls, or potentially falls, below an acceptable recognised level, when the cause of the problem is remediable. Bebbington (1992) defines this approach to assessing need in normative terms. Therefore need is determined by the shared knowledge of the scientific community (Lasalvia, Ruggeri, Mazzi & Dall'Agnola, 2000) and is associated with the 'ability to benefit' (NHS Management Executive, 1991; Cohen & Eastman 2000a). The argument behind this approach is based on what Brewin (1992) refers to as the 'clinical reality' of working with people with severe and enduring mental health problems and the role of the 'expert' in defining need and it's presence or absence. The MRC-NFCA schedule is therefore used as a tool to facilitate experts identifying symptoms and distress so that they can be addressed and reduced according to currently available interventions, thereby encouraging maximum independence in the community.

The major problem with this type of approach is that a need is only identified in terms of the experts' knowledge of an effective treatment or intervention. Therefore, if a problem identified does not have a recognised effective intervention then the need is termed 'unmeetable'. It follows, therefore, that because it is thought that no interventions are effective for a particular need, the need that has been identified does not actually exist. Brewin (1992) states that some needs are simply unmeetable and that professionals

involved in mental health care do sometimes lack the knowledge and practice to solve all patients' problems. However, cogent this argument may be this model of assessment does not meet the multidimensional requirements fundamental to outcome assessment (e.g., Attkisson *et al*, 1992).

The Cardinal Needs Schedule

The Cardinal Needs Schedule (Marshall, Hogg, Gath & Lockwood, 1995) is based on the MRC-NFCA schedule and identifies 'cardinal problems' across three criteria: cooperation, co-stress and severity. It was designed for assessing need for patients with severe mental illness (Lockwood & Marshall, 2001). The 'cooperation criterion', as the name suggests, refers to a scenario where the patient is willing to accept help for their problem. The 'co-stress criterion' refers to the perceived effect the particular problem has on people who are responsible for caring for the patient, such as anxiety and inconvenience. Lastly, the 'severity criterion' refers to safety-based problems where particular problems imply danger to either the patient or other people. The schedule includes a variety of assessments covering mental state and exhibited behaviours and requires a degree of expertise to complete. Final ratings of 'need' involve integrating the views of patients, staff and carers by use of an algorithm.

The Camberwell Assessment of Need

The Camberwell Assessment of Need (CAN) (Phelan, Slade, Thornicroft, Dunn, Holloway, Wykes, Strathdee, Loftus, McCrone & Hayward, 1995; Slade, Thornicroft, Loftus, Phelan & Wykes, 1999) is a comprehensive needs assessment tool for people with severe mental illnesses. Developed in part fulfilment of requirements of the Care Programme Approach (Department of Health, 1991) and adhering to the major principles

of an ideal needs assessment later defined by Johnson *et al* (2001) it has been used widely in adult mental health services. Different versions of the assessment have been developed to address the needs of specific populations, such as the elderly (Reynolds, Thornicroft, Abas, Woods, Hoe, Leese & Orrell, 2000), those with learning disability (Xenitidis, Thornicroft, Leese, Slade, Fotiadou, Philp, Sayer, Harris, McGee & Murphy, 2000) and forensic mental health service users (Thomas, Harty, Parrott, McCrone, Slade & Thornicroft, 2003).

The CAN assessments represent a subjective approach to needs assessment, or a negotiated model (Lasalvia, Ruggeri, Mazzi & Dall'Agnola, 2000), arguing that needs are not fixed and therefore cannot be objectively measured (Wiersma, Nienhuis, Giel & Sloof, 1998). Each of the CAN instruments identify problems, determine whether the problem relates to a need, then where appropriate, determine whether the identified need is met or unmet depending on the perceived effectiveness of any interventions received. Unlike the MRC model (Brewin *et al*, 1987; Marshall *et al*, 1995) needs are not based solely on what the services currently offer, and hence the CAN assessments can be used to identify gaps in current service provision. The CAN instruments have been used extensively in general adult mental health services for inpatients, outpatients and long-stay groups of patients, as well as extensively internationally through appropriate translations.

This model of need arguably represents a progression from the MRC and Cardinal Needs Schedule models, in that it does not rate a need as 'unmeetable' because of the lack of an appropriate intervention and therefore gives a more comprehensive picture of the needs of a person and the effectiveness of service-based interventions. For example Wiersma *et al* (1998), when comparing staff ratings using the MRC NFCA and patient ratings of CAN,

found that four out of seven patients identified with an 'unmeetable' need by staff using the MRC-NFCA reported 'unmet' needs using the CAN. Therefore, the CAN scales highlight problems that cannot necessarily be met, but by recording them as unmet they acknowledge their existence and may suggest gaps in service provision.

Perceptions of need

Despite the disparities evident with definitions of need, there is a general consensus about what constitutes a 'met' need and an 'unmet' need. A met need is indicated when a problem/difficulty has been identified, and an intervention is being provided that addresses, or at least ameliorates the problems/difficulties experienced to an acceptable level. An unmet need is indicated when a need exists for which there is no intervention currently being provided, or where any interventions that have been applied (however extravagant, thorough or comprehensive) are ineffective (e.g., Slade *et al*, 1999; Thomas *et al*, 2003).

Following the premise that perceptions of need are subjective, the presence of a particular problem/difficulty or need depends on the views of the person that has been asked (e.g., Slade, Phelan, Thornicroft & Parkman, 1996; Slade, Phelan & Thornicroft, 1998). It may be necessary to determine the needs of an individual from a number of different sources in order to gain a sufficiently thorough, balanced and comprehensive assessment (e.g., Slade, 1994; Hansson, Vinding, Mackerprang, Sourander, Werdelin, Bengtsson-Tops, Bjarnason, Dybbro, Nilsson, Sandlund, Sorgaard & Middelboe, 2001). It is desirable to collect information from as many 'informed' sources as possible in order to corroborate background histories and build the most comprehensive picture of possible precipitating factors, indicators of relapse, and so on. The 'sources' of information used to complete a

full assessment could therefore include friends and family of the person, neighbours or other visitors, the police and local hospitals. If the person is under the care of mental health services further information can be collected from key staff such as the psychiatrist and allocated care co-ordinator.

A number of studies have sought to determine whether there are differences between health professionals' and patients' views about the presence of needs. If differences between staff and patients were insignificant and predictable then it would not be necessary to complete more than one interview. By contrast if there were significant or unpredictable differences between views it would be important to independently assess each view separately and consider the wider picture (Lasalvia *et al*, 2000).

Phelan *et al* (1995) found that staff and patients identified approximately the same number of needs as each other using the CAN but not the same needs as each other. A subsequent paper by Slade *et al* (1996) explored these differences in more depth. They found that staff and patients were more likely to agree when the need referred to specific service interventions such as the allocation of a hostel placement, arranging appropriate daytime activities, or the provision of regular meals. Less agreement was found when need areas related to less defined service responses such as information or risk to others. The kappa coefficient, or overall level of agreement between the staff and patients, was only fair at 0.34 (Landis & Koch, 1977). A larger more representative study reported by Slade, Phelan & Thornicroft (1998) found 'moderate' agreement with ratings of met needs but less agreement with unmet needs, with patients rating significantly more unmet needs than staff. A similarly low level of agreement ($\kappa = 0.39$), this time specifically concerning unmet needs, was reported by Hansson *et al* (2001) with a large sample of community-

based schizophrenic patients from the Nordic countries Iceland, Sweden, Finland, Norway and Denmark. A similar picture also emerged from the study reported by Lasalvia *et al* (2000), as part of a naturalistic longitudinal study in South Verona, Italy. They aggregated the CAN domains into five groups for analysis - health, basic, social, services, and functioning. They found that staff members were more likely to report more needs in health domains on the CAN (such as psychotic symptoms, physical health and substance misuse) while patients were more likely to report more service-based needs (such as information and benefits). They also found that patients reported significantly more unmet needs than staff in both health and service domains.

Satisfaction and quality of life as outcomes

Holloway and Carson (1999) describe satisfaction with services as a key outcome measure for mental health services. Indeed self-report ratings of satisfaction have commonly been used to measure treatment outcomes and levels of service efficiency and efficacy (e.g., Seligman, 1995). Perreaukt, Katerelos, Sabourin, Leichner & Desmarais (2001) highlight the emphasis on incorporating user viewpoints in outcome assessment, and describe user perceptions of satisfaction as the current method of choice for improving the quality of care that is provided.

A number of approaches have been adopted to measure satisfaction. These include assessing the quality of the therapist-patient relationship, the quality, range and perceived effectiveness of interventions available, the competence of health care staff, and how accessible services are to users (e.g., Ruggeri, Dall'Agnola, Bisoffi & Greenfield, 1995).

Satisfaction has previously been categorised according to a fifteen item self-report scale covering housing, neighbourhood, food, clothing, health, people they live with, friends, family, relations with other people, day programming, spare time, fun, services and facilities in their area, their economic situation, and accommodation in comparison to being in hospital (Satisfaction with Life Domains Scale (SLDS), Baker & Intagliata, 1982).

Satisfaction has also been defined using a dimensional approach using the Verona Service Satisfaction Scale (VSSS) (Ruggeri & Dall'Agnola, 1993). The VSSS categorises satisfaction according to seven different dimensions: (1) global satisfaction, (2) skills and behaviour, (3) information, (4) access, (5) efficacy, (6) types of intervention, and (7) relative's involvement. The scale has been shown to be valid cross-culturally and with UK populations (Henderson, Hales & Ruggeri, 2003; Ruggeri, Lasalvia, Dall'Agnola, can Wijingaarden, Knudsen, Leese, Gaite & Tansella, 2000).

Scores on the VSSS have also been shown to be significantly associated with self-reported measures of unmet need in general adult psychiatric service users. Higher levels of satisfaction are associated with lower levels of unmet need (Leese, Johnson, Slade, Parkman, Kelly, Phelan, & Thornicroft, 1998). Ruggeri, Lasalvia, Bisoffi, Thornicroft, Vazquez-Barquero, Becker, Knapp, Knudsen, Schene & Tansella (2003) reported that lower levels of satisfaction, according to the VSSS, were associated with not being in work, having more hospital admissions, more severe psychopathology as well as higher levels of unmet needs. Ruggeri *et al* (2002) reported that self-reported satisfaction with services using the VSSS was strongly correlated to quality of life and that this, along with a perception of effective treatment, had a positive impact.

Rosenfield (1992) reported that life satisfaction in the severely mentally ill could be improved by providing patients with economic resources or status which in turn lead to what he called an 'enhanced perception of mastery'. Ruggeri, Pacati & Goldberg (2003) reported a strong correlation between how satisfied someone is with their life and how satisfied they are with mental health services. They suggested that consideration should be given to psychotic and neurotic personality traits, as higher rates of these traits were associated with lower levels of satisfaction as rated by the VSSS and lower quality of life as measured using the Lancashire Quality of Life Profile (Oliver, Huxley, Bridges & Mohamad, 1996). Walker & Gudjonsson (2000) suggest that this may be particularly pertinent for detained patients, and concluded that quality of life was an essential outcome to measure to describe the 'totality' of their experience.

Holloway & Carson (1999) found in a group of 'hard to treat' patients receiving intensive case management that a global subjective rating of quality of life was significantly positively correlated to ratings of satisfaction with care using a 'Satisfaction with Care' schedule (Cullen, Waite, Oliver, Carson & Holloway, 1997). Levels of satisfaction were inversely related to depression scores on the Comprehensive Psychiatric Rating Scale (Åsberg, Montgomery, Perris, Schalling & Sedvall, 1978) with higher levels of depression leading to lower levels of reported satisfaction with care. They, like Ruggeri, Pacati & Goldberg (2003), recommend that global measures of quality of life should be reported in relation to mood state.

Service utilization and cost as outcome measures

It would be commonsensical to argue that self-report ratings of need, satisfaction and quality of life could vary according to the frequency, longevity and variation in experience

(or exposure) to services (e.g., Huxley, 1998). Therefore, following this argument, there is a need to consider the aforementioned subjective outcomes in relation to service use.

Beecham and Knapp (1992) assert that service use should be costed at an individual level and propose a set of four guiding principles for costing health and social care services. These are (1) that all costs are comprehensively measured by covering all possible components of care that can be received; (2) that the variations in patient utilization should be explored and not overlooked as no two patients will receive exactly the same 'package of care'; (3) that comparisons should be made on a like-with-like basis because significant differences between groups would lead to ineffectual comparison; and (4) that cost information is considered alongside other relevant evidence, such as unmet needs and other outcome data so it can be interpreted in some kind of context.

Beecham and Knapp (1992) describe the development of an instrument that details individual service contacts from all identified services involved in care and treatment services in that setting. The Client Service Receipt Inventory (CSRI) has been developed to collect information on the frequency and duration of service contacts. The use of services needs to be collected for a discrete time period that is representative of the services being costed (McCrone, 1998).

It is possible to calculate *pro rata* costs for a defined contact with these health and social care professional, with an annually updated comprehensive costing directory available from the Personal Social Services Research Unit (PSSRU) at the University of Kent at Canterbury (www.pssru.ac.uk) (e.g., Netten & Curtis, 2003). These costings also include 'hotel' costs, referring to such things as food, heating and laundry; and capital costs

covering buildings costs (McCrone, 1998) that need to be considered when calculating the total cost of a service.

Kilian, Roick, Matschinger, Bernert, Mory & Angermeer (2001), in a German study that analysed the annual costs of treatment for people with schizophrenia, found that effectively reducing symptoms led to savings on total treatment costs, and that costs for sheltered accommodation, psychiatric inpatient treatment and medication were the highest costs incurred. In addition, they reported that variations in self-reported needs, satisfaction and quality of life explained the greatest variance in costs. A further study of general adult psychiatric services in Europe reported considerable variation in service utilization patterns and associated costs between different sites. Higher levels of need, increased symptom severity and having a longer psychiatric history were associated with higher costs (Knapp, Chisholm, Leese, Amaddeo, Tansella, Schene, Thornicroft, Vazquez-Barquero, Knudsen & Becker, 2002).

Outcome assessment in forensic mental health services

There are a number of challenges to be faced when considering outcome assessments with mentally disordered offenders (MDOs), not least of which is as fundamental as defining the population of interest. Gunn and Taylor (pg1, 1993) define forensic psychiatry as:

> *'...the part of psychiatry that deals with patients and problems at the interface of the legal and psychiatric systems'*

More specifically a report by the Revolving Doors Agency (Revolving Doors Agency, 1996) defined MDOs as:

> "*...people with mental health problems who come into contact with the criminal justice system*"

Similarly, the Reed Report (Department of Health and Home Office, 1992) used the following definition:

> "*...a mentally disordered person who has broken the law*"

This need to categorise and label inevitably leads to an uneasy grouping of what could arguably be a widely heterogeneous group of patients with very different profiles and needs (Cohen & Eastman, 1997). Such broad-brush categorisations also lead to including people who have been deemed difficult to manage or those who have not benefited from treatment as MDOs (e.g., NACRO, 1992, 1993). Such problems with definition inevitably lead to difficulties in applying effective interventions to groups of MDOs or measuring outcomes in any consistent manner beyond the individual level.

Cohen and Eastman (2000a) argue that the MDOs are likely to have similar needs to patients in contact with general adult psychiatric populations in terms of health and social care. However, they argue that MDOs also have additional more specific needs relating to offending behaviour. Therefore in addition to assessing health, social, clinical and functional needs, forensic needs assessments should include specific risk-based needs, such as serious self-harming behaviour and serious violence towards others. Cohen and Eastman (2000a, 2000b) suggest that these areas relate more to societal needs as opposed to individual needs and complicate the identification and profiling of needs.

Applying outcomes that measure 'change' in forensic mental health services is not straightforward. It can certainly be argued that the need for multi-axial, multi-perspective, multi-functional, multi-disciplinary, multi-agency and multi-site outcome measurement is even more pertinent with forensic service users than other groups because MDOs are 'different' from general adult patients (e.g., Shaw, 2002a). Within forensic services, there is the overriding need to focus on public safety goals above and beyond individual level outcomes relating to reducing symptoms, maximising functioning and increasing well being (Hargreaves and Shumway, 1989).

Grounds, Gunn, Mullen and Taylor (1993) argue that there is a need to develop systems for making secure institutions (prisons and secure psychiatric facilities) more effective. They suggest identifying and developing 'performance indicators' that can be applied to different services using similar methodologies. At the 'crudest' service level, they suggest that security can be measured in terms of the number of escapes, the number of disturbances, and the number of assaults and suicides as proxy indicators of the effectiveness of a service. They also acknowledge the need to consider more subtle subjective measures of perceived effectiveness measuring how power is distributed within the institution; the ways in which patients and staff communicate with each other; and level of psychological distress in the institution. They recommend examining the relationship between these individual and service level indicators to assess the interplay between various factors and outcomes of interest.

Jenkins (1990) lists a number of overriding objectives for health improvement strategies for MDOs including reducing their entry into criminal justice agencies and improving core needs relating to reducing the rates of homelessness and unemployment. At an input level

she argues for the need to identify vulnerable groups so that preventative and educational strategies can be implemented to reduce the incidence of mental disorders; to develop diversion services at the entry points to the criminal justice services, such as courts, police stations, the Crown Prosecution Service and probation services; to provide psychiatric care to prisons to provide assistance in transferring MDOs to hospital and provision of appropriate aftercare and rehabilitative services. Essentially, positive outcome indicators would then be a reduction in the number of patients detained under relevant provisions of the Mental Health Act 1983 (Department of Health & Welsh Office, 1983); a reduction in prevalence of mental disorder in the prison system; an increase in the number of individuals diverted from criminal justice agencies; and a reduction in suicide rates in prison.

Cohen & Eastman (2000a) suggest a conceptual framework for measuring outcome, quality and service evaluation for MDOs, which essentially takes the most useful components of other frameworks previously suggested by the likes of Attkisson *et al* (1992), Berwick (1989) and Tansella & Thornicroft (1998). The framework suggested is purposefully complex and difficult to interpret, as the authors argue to reflect complexities involved in outcome assessment with MDOs. The framework includes the need to consider multiple dimensions of outcome indicators and the importance of monitoring and measuring individual level service utilization and associated costs.

Summary

There remains a need to systematically monitor and evaluate mental health services so that they can be delivered to the highest possible standards (Department of Health, 1999a). While such outcome measurement is becoming increasingly commonplace in general adult

and primary care services it is still relatively new in forensic mental health services and particularly with prison populations.

Forensic mental health service users present the health and criminal justice services with particularly challenging needs that cannot readily be met without multi-agency collaboration. It is recommended that service evaluations should consider both subjective and objective outcome measures and that different viewpoints, especially user views, should be considered wherever possible.

The following two chapters will consider the evidence in relation to outcome assessment with prison populations and medium security psychiatric service provision respectively.

Chapter 2: Mental Health Services in Prison

Prisoners have consistently been highlighted as a marginalized, socially excluded group with particular vulnerabilities and needs. The overwhelming majority of people in prison will return to the community at some point in the future, and recently the NHS has become responsibility to provide adequate assessment, treatment and care for them. The purpose of this chapter is to review health care services in prison, and in particular to consider mental health services in the prison estate. Further consideration will be given to describing the mental health care needs of prisoners. The review here is limited to work that has been carried out in services in England and Wales in order to specifically determine the impact of Government initiatives and the recent partnership between HM Prison Service and the NHS.

Setting the scene

Traditionally the responsibility for all health care services to prisoners in England and Wales fell under Home Office administration. Prison health care services were funded and run separately to general health care services provided by the NHS. These parallel services could never feasibly provide comparable levels of service; hence prison health services (and therefore prisoners) were always at a disadvantage. Reasons why HM Prison Service chose to continue providing a parallel health service after the NHS was founded in 1948 are not clear. Birmingham (2003) says that there were almost immediate calls for he NHS to assume responsibility, but they were not obliged to even consider doing so for some 50 years. Smith (1999) suggests that the Prison Service resisted any integration predominantly because of pride as it had provided an independent medical service since 1877.

Continued reports and evaluations over the years have reported severely depleted health services in prisons, and as a consequence high levels of unmet health care needs. These long-running disparities have led to continued calls for developing some kind of partnership between HM Prison Service and the NHS.

The discussion paper '*Patient or Prisoner?*' by Her Majesty's Inspectorate of Prisons (1996) was highly critical of the prison service having medical services, which were essentially at best a second class service, that could never compete with the NHS. The paper called for collaboration between HM Prison Service and the NHS, proposing that HM Prison Service would be financially responsible for providing primary care services and that the NHS would be responsible for secondary services required. The paper argued that it was not only the prisoners who were being damaged but also that it was putting society at risk.

The paper also recognized that the development of new Standards for health care delivery were of no practical use unless they were supported by appropriate resources along with provision for continuous evaluation of progress and change against defined targets. On the resource level particular criticism was levelled at the lack of psychiatric training, experience and expertise that the medical and nursing staff had and therefore their inability to be able to recognize symptoms of mental distress let alone assess, treat and care for mentally ill prisoners or those with addictions. Quite apart from a lack of professional skills and experience there was a sense of professional isolation among prison health care staff suffering low status, with minimal opportunities for further training and development available to them. Therefore it was strongly argued that the central tenets of health care delivery (equality and continuity of care), that were clearly in demand, would only be

possible to be provided if the medical and nursing staff were integrated with mainstream NHS providers, and if the NHS actually accepted responsibility for the health of prisoners.

A year later, a report by the Health Advisory Committee for the Prison Service (1997) referred to the need for equivalence between health services available in prison and the NHS. Particular emphasis in the report was placed on problems with continuity of care and the lack of through-care and aftercare services.

The National Service Frameworks for Mental Health (Department of Health, 1999a) represented a further attempt to 'reduce unacceptable variations in health and social care'. The Framework set out a series of standards and service models as well as proposing methods of implementation and progress/process evaluation to promote its widespread integration. This publication highlighted prisoners as a particularly vulnerable group. It argued that the prison population were in need of particular attention by virtue of being socially excluded. Like the *Patient or Prisoner?* discussion paper (Her Majesty's Inspectorate of Prisons, 1996), the National Service Frameworks for Mental Health (Department of Health, 1999a) called for closer partnerships between prisons and the NHS at all levels (locally, regionally and nationally). The publication suggested that the Health Authorities should be assessing the prisoners' current needs and making provision for their projected future needs while they were still in custody. It was argued that such a model would have the benefit of identifying appropriate services to be set in place to facilitate through-care and support services after release from prison, the notion being to reduce the health burden on, and cost to, services in the longer-term.

Also published in 1999 was a long-awaited joint report by HM Prison Service and the NHS Executive *'The future organisation of prison health care'*. This report finally acknowledged the many deficiencies in current service provision in prisons. It also identified some of the key service gaps that needed to be addressed as a matter of priority (HM Prison Service/NHS Executive, 1999). The report made both structural and practical recommendations and was seen as positive (Longfield & Fairfield, 1999) and, in essence, a 'groundbreaking initiative' (Birmingham, 2003). Structural recommendations included the introduction of mandatory 'Health Needs Assessments' to be completed in all prisons nationwide. These were to be used to build profiles of health care needs locally, regionally and nationally. To help get these initiatives off the ground a Task Force was developed with the specific remit of helping to support the completion of the health assessments. Furthermore, a Policy Unit was also developed to provide new policies and procedures to facilitate these assessments. The practical recommendations in the report focused on the need to improve the identification of mental health needs via reception screening procedures; new arrangements for referrals to psychiatric facilities, in particular medium and high security psychiatric services; the thorough implementation of the Care Programme Approach including outreach services on prison wings; and most importantly the formal recognition of the need for the provision of equivalent services.

The unveiling of the Joint Prison Health Policy Unit and Health Task Force in April 2000 therefore represented an encouraging move towards improving health care services in prisons, perhaps heading towards some degree of equivalence with NHS standards of care, or at least representing a new partnership that could encourage collaborations. This, coupled with the pledge by the UK Government to continue to improve mental health services for prisoners under the NHS Plan (Department of Health, 2001a), has been seen by

many as reassuringly positive (e.g., Birmingham, 2003). Such initiatives will further encourage continued efforts to strive towards a degree of equivalence the Home Office has long been aiming for (Home Office, 1990a; 1990b).

Models of health care available in prison

Prisons do not operate according to the same models of healthcare. The services that are available in any one prison can vary greatly and are based on local initiatives and partnerships with community health services, funding and staffing levels. The services available can be summarised according to five different models (see Figure 1):

Figure 1: Models of health care services in prison

Models	Description
1	One (or more) directly employed full-time prison doctor supported by health care officers and nurses providing primary care. External NHS specialists provide specialist care and local contractual arrangements support these arrangements. The prison could have it's own pharmacy service, or share them in a clustering arrangement.
2	Primary Care provided by NHS General Practitioners employed for a set number of sessions per week, supported by same personnel and other services as Model 1.
3	Primary Care contracted out to local general practice providing full-time medical services as in Model 1.
4	All health care provided by an external organization, such as private sector or NHS provider.
5	Primary Care provided according to clustering arrangements between several prisons.

Model 1 is generally considered to be most typical of local and remand prisons while Model 2 is predominantly found in smaller establishments. Model 4 is not very common. Model 5 would be found in an area where a number of prisons were in reasonable geographical proximity to each other. Added to this, different levels of health care services are provided in different prisons. These can range from nursing cover only during office hours (generally 9am to 5pm); to nursing cover from the time the prisoners are unlocked

through to lock-up time; 24 hour nursing cover with the provision of an inpatient unit; or 24 hour nursing cover with an inpatient unit providing services in a cluster arrangement between several prisons. The services that are provided will generally be determined by the facilities at the individual prison, staffing levels and links with local NHS services and Trusts.

The Community Mental Health Team model of care

The National Service Framework for Mental Health (Department of Health, 1999a) suggests that specialist mental health services should be providing in-reach services to prison populations, based on the Community Mental Health Team (CMHT) model of care. It is argued that such a model, incorporating principles of the Care Programme Approach (Department of Health, 1990; 1991), would provide an appropriate level of support and care to prisoners both during and after their sentences.

The CMHT model can essentially be seen as serving two distinct groups of patients (Department of Health, 2002); namely people with time limited (perhaps transient or reactive) disorders who are treated and referred back to their GPs after a short period of time; and people requiring more prolonged specialised care and treatment for people with severe mental disorders and those who pose a significant risk to themselves or others or those with poor compliance and adherence.

To get an idea about the relative size of these two groups Goldberg and Huxley (1992) estimated these figures for community-based patients. They argue that the majority of mental health problems can be adequately assessed and treated in Primary Care settings, occasionally with specialist input. However one in five people would have mental health

problems of a severity requiring more specialised treatment and care from secondary care services.

What is clear according to this model is that Primary Care services act as the initial point of contact for people with health related problems and therefore a filter to other more specialised services. Therefore, Primary Care services need to provide rapid assessments to those patients referred to them in order to ascertain the types and levels of care required to meet the persons' needs. The overriding aim is to provide this care in the least restrictive setting possible, but in order to achieve this balance Primary Care services require access to the specialist knowledge and support of specialist services to carry out the assessments.

The model of healthcare utilized by the CMHT approach mirrors the principles set out in the Care Programme Approach (CPA) in the NHS and Community Care Act 1990 (House of Commons, 1990; Department of Health, 1991). The principles of the CPA form the basis of formal discharge from mental health services, linking in with Section 117 of the Mental Health Act 1983 (Department of Health & Welsh Office, 1983), and set in place comprehensive aftercare and follow-up services. This process includes assessing the health and social care needs of the individual in question, the development of a series of care plans to meet these identified needs, and a key worker assigned to the individual to oversee and monitor progress and change with regular reviews which adapt to the changing needs and presentation of the individual.

The CPA provides the basic principles for putting effective aftercare services in place and can be targeted to different levels of assessed risk and need. This aftercare package is

developed in response to individually identified needs and incorporates user views (e.g., Lawson, Strickland & Wolfson, 1999). For example some individuals will only need minimal supervision and support and may only require a minimal level CPA with regular contact with a health care worker to monitor progress; whereas others may not function well on their own in the community and have less social support, a serious mental illness, and/or pose a degree of risk to themselves or other people. These individuals would need a multidisciplinary aftercare package, enhanced levels of supervision and support from a range of services and providers.

Birmingham (2003) suggests that the current impetus is firmly on moving away from inpatient models of treatment in prison towards the CMHT model of assertive outreach and wing-based treatments, as recommended by central initiatives (Department of Health, 2001b). Wilson (2004) describes the prison population as a 'community' in itself, so argues that health care services in prison should be equivalent to a Primary Care service with specialist outpatient services in the NHS, and transfer being made available from prison to hospital for those needing anything more than Primary Care. Despite this, a number of barriers still emerge (e.g., Pyszora & Telfer, 2003).

When considered on a purely practical level there appears to be a somewhat entrenched conflict of interest when trying to develop and operate a CMHT model of care in a prison environment. This is arguably due to the perhaps irreconcilable conflict between the need for security (as necessary and required under the prison regime) and the need for care and treatment (Watson, Stimpson & Hostick, 2004), as required by the CMHT model and detailed under provisions of the National Service Frameworks for Mental Health (Department of Health, 1999a). For example Anaraki, Plugge & Hill (2003) interviewed

healthcare staff in four prisons in the Thames Valley region and concluded that prisons operated in a culture that gave low priority to health. They suggested that the main reasons for this related to concerns about breaches of security and discipline.

This is not a problem easily resolved because prisons were not recognized as hospitals under the National Health Service Act 1977. The implications of this are that the prisoner cannot be administered medication against their will, as provisions of the Mental Health Act 1983 (Department of Health & Welsh Office, 1983) do not apply in prison. Therefore, a severely mentally ill prisoner can decline essential treatment, and only be administered medication in emergency situations where principles of common law come into force. These issues have led to calls for a more flexible interpretation of the law to allow for appropriate treatment to be provided under the auspices of equivalence (e.g., Wilson & Forrester, 2002; Wilson, 2004).

Descriptive studies of prison populations in the United Kingdom

There have been a number of epidemiological studies describing the prison population. They have generally focussed on the extent of psychiatric morbidity (e.g., Singleton, Meltzer, Gatward, Coid & Deasy, 1998) and the need for treatment (e.g., Gunn, Maden & Swinton, 1991; Brooke, Taylor, Gunn & Maden, 1996), and have included both the remand and the sentenced prison populations.

Sentenced prisoners

A large-scale study by Gunn, Maden and Swinton (1991) sampled a five percent cross-section of the male prison population to assess the nature and extent of psychiatric disorder amongst the sentenced population. They aimed to describe the health care provision

available for prisoners with mental health problems and identify any treatment needs that remained outstanding.

They found significant morbidity, with over one-third (37%) of the sample diagnosed as suffering from a psychiatric disorder requiring treatment. Rates of psychosis were significantly higher than those reported in the general population (Meltzer, Gill, Petticrew & Hinds, 1995), 2.4% versus 0.4%. Alcoholism and personality disorders were also common.

Gunn, Maden and Swinton (1991) made a series of recommendations aimed at improving the management of mentally disordered prisoners and proposed that any improvements would require changes in both policy and procedure at the prison level and the NHS level. The four key areas were: (1) improving funding so that adequate resources could be made available to meet the specific and diverse treatment needs of different 'groups' such as drug users and sex offenders; (2) providing adequate specialised training for medical, nursing and prison staff both to attract and retain appropriate types and ranges of staff and to provide appropriate standards of care and treatment; (3) developing standard policies and guidelines throughout HM Prison Service pertaining to the management of people with psychiatric disorders so that regional variation is minimised; and (4) clarifying the roles that HM Prison Service and the NHS both have in managing those with psychiatric disorders.

Remand prisoners

Brooke, Taylor, Gunn & Maden (1996) used the same methodology as Gunn, Maden & Swinton (1991) in a cross-sectional study of 544 men on remand. Two thirds of the

sample received at least one psychiatric diagnosis. Roughly 6% were diagnosed with a psychosis, 28% with a neurotic or adjustment disorder, 11% with a personality disorder and 39% with a substance misuse disorder (most commonly problems with alcohol).

The striking difference between this remand population and the sentenced population previously described by Gunn, Maden & Swinton (1991) are the substantially higher rates of psychiatric morbidity. High proportions of the remand population were also rated as being at increased risk of self-harm; indicated by having a history of self-harm, substance misuse, unemployment and being incarcerated, and overall a quarter of their sample had a history of self-harm.

Maden, Taylor, Brooke & Gunn (1995) described the treatment needs of these men according to nine treatment options, including: (1) monitoring; (2) outpatient support; (3) an assessment interview specifically in relation to substance misuse; (4) inpatient on a prison hospital wing; (5) transfer to inpatient psychiatric hospital facilities; (6) assessment for therapeutic community; and (7) then those who did not seem amenable to the other options and those who they could not decide upon were grouped into a 'no treatment' group. As would be expected all of those diagnosed with a psychosis were rated as requiring treatment, with small proportions requiring outpatient services or placement on prison hospital wings. Three quarters of these psychotic men were rated as requiring transfer out of prison to inpatient psychiatric care, and half of these were rated as requiring medium security psychiatric services.

Those with personality disorder were commonly rated suitable for assessment for a therapeutic community, while the men diagnosed with substance misuse disorders were

commonly rated as requiring clinical interviews to ascertain their motivations in relation to substance use or residential rehabilitation. They concluded that the remand population were in particular need of medical assessment and investigation due to the high level of substance misuse reported and their chaotic lifestyles in general, but recognized that this need was complicated by rapid turnover rates and the high probability of not being able to follow these individuals up.

In another study Birmingham, Mason & Grubin (1996) found mental disorder to be present in 26% of 569 consecutive reception assessments of remand prisoners at Durham prison. Just over 4% of their sample were found to be acutely psychotic. The discrepancy between rates of mental disorder reported in this study and in Brooke *et al* (1996) are because the latter included substance misuse disorders. They argue that the high rates of psychiatric disorder in the remand population could be attributable to the number of defendants who are remanded into custody for psychiatric reports.

The psychiatric morbidity survey

The most comprehensive study of the prison population in England and Wales in recent times was commissioned by the Department of Health, carried out by the Office for National Statistics (ONS), and detailed in a report by Singleton, Meltzer, Gatward, Coid and Deasy in 1998. The study team used a census approach and had three overriding aims. The principal aim was to collect baseline census data on all prisoners of working age (18 to 64 years old) in prisons in England and Wales. This entailed compiling an estimate of the prevalence of psychiatric morbidity in relation to psychoses, neuroses and substance misuse (as their previous census surveys had done) as well as more 'prison specific' disorders including personality disorder, self-harm, post-traumatic stress disorder and

learning disabilities (based on intellectual functioning). Semi-structured clinical interviews were used to diagnose these disorders. The second aim was to examine the types of services used by prisoners and the level of service they received, while the third aim of the survey sought to identify antecedents or precipitating factors that could have led to the development of criminal activities and or mental disorder in this population group.

They found that antisocial personality disorder (in a 20% sub-sample) was present in roughly two thirds (64%) of the male remand prisoners and half (49%) of the male sentenced prisoners, with paranoid personality disorder also being found in over a quarter (29%) of the male remand prisoners and a fifth (20%) of the sentenced population. The rates of antisocial personality disorder would generally be expected due to the very nature of their offences, while the high rates of paranoid personality disorder suggest a population with complex needs and perhaps challenging behaviour.

Using the same sampling strategy, rates of functional psychoses were higher than previously studies had estimated, with 10% of the males on remand and 7% of males sentenced meeting criteria in the last year, while 9% of the remand and 4% of the sentenced populations 'probably' had a psychotic disorder. The high rates reported here might be reflective of the sampling strategy identifying some of the 'hidden morbidity' in the prison system.

Neurotic disorders were highly prevalent with 59% of the male remands and 40% of the sentenced males suffering from some kind of neurosis, most commonly problems with sleep, worrying, fatigue, depression and irritability. These rates were higher in the remand population. This finding would probably be expected, and hence is not altogether

surprising, because the remand prisoners will have spent far less time in prison and therefore will still be adjusting to the prison regime, their loss of liberty, and separation from friends and family.

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Alcohol consumption was a common problem for the men, with 58% of the remand and 63% of the sentenced men rated as drinking to hazardous levels according to the AUDIT scale (Reinert & Allen, 2002). Similarly, previous drug misuse was common with more than 80% of the men reporting having ever used drugs. Half (51%) of the remand and 43% of the sentenced men were rated as being dependent on drugs and at least a third of the remand and higher rates of the sentenced group reporting using drugs in their current period of incarceration. It is noteworthy that these reported proportions do not represent diagnoses. The strong relationship between substance misuse and crime has been well documented elsewhere (e.g., Brooke *et al*, 1996). Previous suicide attempts were common for men in both the remand and sentenced populations with over a quarter (27%) of the remand population reporting a previous attempt, and 1 in 20 (5%) of these men reporting self-harm. These figures are in line with other reports and suggest a vulnerable population in need of enhanced supervision and support.

Fryers, Brugha, Grounds & Melzer (1998) suggest the psychiatric morbidity rates are not altogether surprising given the continued widespread deficits in mental health provision. They suggest that the complex patterns of treatment needs warrant a long-term approach and widespread adoption of a rehabilitation culture in our health services as a whole.

There is now a consensus opinion that there is a worryingly high rate of mental disorder among the prison population (Department of Health, 1999a). The literature suggests that

the majority of those who have been identified as having mental health problems could be adequately cared for on an outpatient or primary care basis according to the CMHT model described previously, and therefore do not require inpatient care or transfer out of custody for treatment. However what this does suggest is the need for a change in ethos of the prison regime to being more supportive and therapeutic with their inmates than currently is the case. Fryers, Brugha, Grounds & Melzer (1998) argue that the right to effective treatment is a basic human right and that the epidemiological studies carried out suggest a continued need to speed up the criminal justice process itself.

Quality and range of health care services available in prison

One of the key principles in the Prison Healthcare Standards (HM Prison Service, 1994; 2000) is that prisoners should have 'access to same quality and range of health care services' as NHS services available to patients in the community. Although not a statutory requirement for prisons to meet, the Healthcare Standards provide guidelines of what would generally be considered good practice and do give an indication of the range and quality of services provided in every prison, as well as the degree of equivalence or otherwise between prison health services and the NHS.

Primary Care and access to core health services

Marshall, Simpson & Stevens (2000a; 2000b) suggest that prisoners have good access to primary health care services because they have direct access to General Practitioners (GPs) who actually work (at least on a sessional basis) in the prisons themselves. However this may be an over-generalisation as Reed and Lyne (1997) found enormous variation between prisons surrounding both the quality and standard of healthcare services available in their survey of 19 prisons. They reported that while a few prisons did provide healthcare

services that were broadly comparable to local NHS services, the majority fell far below acceptable standards of care. A similar inspection reported three years later, which included thirteen prisons which all had inpatient healthcare services (Reed & Lyne, 2000), concluded that although there were pockets of good practice, in general the standards of care in many areas still fell far below NHS standards.

Marshall, Simpson & Stevens (2000a) suggest that prisoners are heavy users of primary care services and place a high demand on them while in prison. One reason for this could be that prisoners do not have the option of self-medicating (i.e., buying their own tablets and remedies for ailments) and do not have access to pharmacy services without formal referral. Alternatively, it could be that they are heavy users just because the services are there to be used. They go on to suggest that prisoners access prison doctors three times more often and consult primary health care workers significantly more often as compared to comparable groups in the community.

These figures may be partly explained by findings of a large study of the physical health of prisoners reported by Bridgwood and Malbon (1994), who reported that prisoners were more likely to have a long-standing physical illness or disability, as well as being more likely to be taking some form of medication, be smokers, and eat an unhealthy diet. Recent reports by HM Prison Service (e.g., HM Prison Service, 1997) have also highlighted the additional health care burden on prisons associated with the rising elderly population (i.e., over 65 years old) and female prisoners housed with their babies on specialist mother and baby units, as central issues for future service development strategies.

More Specific Mental Health Related Problems

It is strongly argued that prisons are not well equipped to deal with severe mental disorder, and indeed should not do so. For example, Reed and Lyne (2000) suggest that perhaps the NHS should deal with all health matters, by prisoners being referred out to remove all responsibility from the prison service. However this suggestion is viewed what is clear is that there will inevitably always be a play-off between security and treatment with the former always trumping the latter. Gunn (2000) points out that this is because prisons are still seen as centres of punishment whereas hospitals are more likely to be seen as benign. He refers to prisons as purposely 'sinister' and 'punitive' in nature to encourage deterrence, whereas hospitals, he argues, are run according to fundamentally different laws and procedures with an overall philosophy of care to provide comprehensive treatment, care, and compassion. Even though prisons and hospitals both have a rehabilitative purpose, Gunn (2000) concludes that it is unlikely that prison could perform to the same standards as an NHS hospital facility, even if they were similarly equipped, because of the fundamental differences in their core purposes. Some ten years earlier, he had concluded that prisons could not perform more than a 'first-aid' level of care for prisoners with severe mental illness (Gunn, Maden & Swinton, 1991), so it appears that little has changed. Maden (2003) surmises that even with the new partnerships the health care services available to prisoners are still only the second best option. The best service, he argues, would be for the NHS to take over all of the care and treatment for prisoners in prison. However, this would require part of the prison to be run to a fundamentally different set of principles, which is not likely to be a viable option.

Problems with detection - the hidden morbidity

If mental health problems go undetected, it is highly unlikely that when the person is released from prison they will have access to aftercare and community support from the appropriate services. This has led to what Birmingham (1999a) referred to as the '*revolving door patient of the nineties*' whereby, because the prisoner does not engage with services, the aftercare services needed to sustain a meaningful and appropriate quality of life are not put in place. Therefore, upon release they commonly find themselves essentially homeless, with poor social networks and close to drug and alcohol cultures (Fryers, Brugha, Grounds & Melzer, 1998). This inevitably precipitates health-related or criminal relapses, which in turn leads to an automatic pathway back in the criminal justice system, due to inadequacies in both community and inpatient mental health services (Birmingham, 2001).

This revolving door syndrome, once started, is evidently not easy to break. A report by the National Association for the Care and Resettlement of Offenders (NACRO, 1992) recommended that it best be tackled using a multi-agency approach. This would require the development of closer links between criminal justice agencies, community care services and housing agencies. The scale of the problem being faced has been exemplified by White (1998) who reported that around half of the prisoners who were released in 1994 had been reconvicted of a standard list offence within two years.

In order to start to address this considerable problem it is first necessary to be able to accurately identify prisoners with mental disorders as well as those with particular vulnerabilities who could subsequently develop mental disorders after reception. This

area has received a great deal of attention, specifically in relation to the reception health screen, which is routinely completed when an inmate arrives at prison.

The reception screen is comprised of a number of general health related questions and is completed by face-to-face interview, usually by a Health Care Officer. The time allowed for the completion the reception screen will depend on the location of the prison and the number of prisoners remanded to the prison on any given day. Grubin, Parsons & Hopkins (1999) point out that as the health screen constitutes only a fraction of the total reception process henceforth little attention is paid to it's completion. This is borne out by the rates of severe mental disorder not picked up by the reception screen (e.g., Grubin, Birmingham & Mason, 1997) and the common inaccuracies of those rated as having a mental disorder at reception who were subsequently found to have no mental disorder (Birmingham, Mason & Grubin, 1996).

There remains a need to train non-medical staff to be able to detect the major signs and symptoms of mental disorder (Birmingham, Gray, Mason & Grubin, 2000). As the situation stands a significant hidden morbidity remains lurking in the prison system untreated. This has been mainly blamed on an apparent lack of knowledge about mental disorders and skills to be able to recognize these common signs and symptoms among non-medical prison staff. For example, it has been reported that Health Care Officers did not routinely receive formal training in the detection of mental health problems, and that the doctors employed in the prisons were not forensically or psychiatrically trained (NHS Executive/HM Prison Service, 1999). However, Birmingham (1999b) found that prison staff could identify some people with significant mental disorder by simply being asked

who was 'odd, strange, or behaviourally disturbed'. He therefore suggests a need to improve screening systems and measures.

In a radical review of the reception screen funded by the Department of Health, Grubin, Parsons & Hopkins (1999) developed a revised screening tool that covered what they considered were the main areas of immediate concern at the point of reception. These key areas were: (1) severe mental illness; (2) withdrawal from alcohol or drugs; (3) suicide or serious self-harm; (4) medical conditions requiring immediate treatment; (5) the need for medication; (6) pregnancy; and (7) injuries associated with arrest of detention. Gavin, Parsons & Grubin (2003) describe a revised health screen with four questions, followed by a follow-up mental health assessment for those 'screening positive' (answering positively to any of the four questions) to determine a 'course of action' to take. The four questions were: (1) was the inmate charged with murder; (2) have they ever received treatment from a psychiatrist for any kind of mental health problem; (3) have they ever received antidepressant or antipsychotic medication; and (4) had they ever deliberately self-harmed? Out of over six hundred consecutive receptions a third answered positively to at least one of the questions, most commonly having self-harmed previously. This revised screen is currently being piloted to assess its predictive accuracy.

A further consideration here is that the prisoners themselves may try to hide their symptoms for fear of discrimination (e.g., Qurashi, 2002) or that they have real concerns that they will be subjected to indefinite sentences under the Mental Health Act (Department of Health & Welsh Office, 1983) as opposed to determinate sentences if they stay in prison (Gibson, 2003). Therefore, some prisoners try to work through their

problems by themselves, due to their own experience of prison healthcare services or because of hearing about other peoples' experiences (Birmingham, 1997).

A central strategy for prison health care, based on the National Service Frameworks for Mental Health (Department of Health, 1999a) has been developed (Department of Health, 2001b) and this, coupled with the proposed overhaul of Primary Care services (Paton & Jenkins, 2002) looks promising for prison healthcare services (Reed, 2003).

The need for transfer to hospital

It is well acknowledged that when a prisoner meets threshold criteria for mental disorder as classified by the Mental Health Act (1983) (Department of Health & Welsh Office, 1983) they should be transferred out of custody to appropriate psychiatric services for treatment as quickly as possible (e.g., Earthrowl, O'Grady & Birmingham, 2003; Reed, 2003). This is because, as the Reed Report (Department of Health & Home Office, 1992) argues, it unlikely to be possible or indeed desirable for prisons to provide acute psychiatric care. This is also in line with Home Office Circular 66/90 (Home Office, 1990b), which stated that mentally disordered offenders should receive care and treatment from health and social care services wherever possible.

In order for a prisoner to be transferred, the Prison Medical Officer needs to request the opinion of an outside psychiatrist. Such requests for assessments require a certain judgement call, as the referring doctor needs to determine the type and level of security of psychiatric service required. Arranging such an assessment is fraught with practical and procedural difficulties (e.g., Coid, 1988a, 1988b), which does little to help expedite transfers.

In terms of the notion of equivalence, it is with the need for transfer where prisons are most likely to fail to meet centrally determined targets (Wilson, 2004). The problem arises with those prisoners who cannot be managed on normal location using the CMHT model of outreach. These are prisoners who, by definition, have more serious and enduring mental disorders or pose risks to themselves of others. Standard 5 of the National Service Framework for Mental Health (Department of Health, 1999a) relates to patients having '*timely access to an appropriate hospital bed or alternative bed or place...*'. Isherwood & Parrott (2002) suggest that in spite of recent initiatives (e.g., Department of Health, 1999b; 2001b) delays associated with actually transferring prisoners out of prison to NHS services have continued to increase, with longer delays being associated with the need for higher levels of security. The rate of successful transfer they reported was relatively small, at between 40 and 50 transfers a year. Hotopf, Wall, Buchanan, Wessely & Churchill (2000) suggest that the demand for secure psychiatric beds could not adequately be met by current service provision, thereby creating significant unmet need. Extrapolating this figure, the extent of this unmet need has been quantified by Fryers, Brugha, Grounds and Melzer (1998) who suggest that there are approximately 4500 men and 400 women in prison with recent or current psychosis. Reed (2003) suggests that it is not unreasonable to assume there are 500 prisoners at any one time waiting to be transferred out of prison to psychiatric services.

Outcome assessments with prisoners

Apart from population based recidivism rates, there is very little published outcome data concerning prisoners. There have only been a few studies that have used outcome assessments with mentally ill prisoners.

The first study (Hardie, Bhui, Brown, Watson & Parrott, 1998) assessed the needs of two hundred and seventy-seven (277) remand prisoners in HMP Brixton using an adapted version of the MRC NFC Assessment (Brewin *et al*, 1987). Hardie *et al* (1998) found the highest levels of unmet needs to be in the areas of housing, treatment for substance misuse problems, and neurotic symptoms. A quarter of the sample had unmet needs with psychotic symptoms. Other unmet needs covered social and domestic problems, such as finance, safety to self and safety to others. They reported that three-quarters of the prisoners had between one and four unmet needs (out of a possible 11 needs), and a small but significantly important sub-group had multiple unmet needs.

The second published study (Harty, Tighe, Leese, Parrott & Thornicroft, 2003) compared the needs of a cohort of prisoners admitted to the inpatient healthcare unit at HMP Belmarsh with the needs of patients in contact with community mental health services, using the Camberwell Assessment of Need (Phelan *et al*, 1995; Slade *et al*, 1999). Harty *et al* (2003) reported that the patients in the inpatient healthcare unit reported more needs than community psychiatric patients and significantly more unmet needs. The prisoners were most likely to report unmet needs on the CAN in relation to mental health and social needs, i.e., psychotic symptoms, accommodation and company.

A third study was a dissertation by Thomas (2001). He studied the needs of mentally ill prisoners on an inpatient healthcare unit in South East London using the Camberwell Assessment of Need Forensic Version (CANFOR) (Thomas *et al*, 2003). Prison staff reported that the prisoners had an average of 6.49 needs in total out of a possible 25 needs, of which about half were unmet. The most common needs identified by staff for the

prisoners were food, information, psychotic symptoms, psychological distress, and treatment. The most frequent unmet needs reported were daytime activities, psychological distress, psychotic symptoms, safety to others, and treatment. These profiles suggest that the prisoners did not have sufficient structured daytime activities, and that they were commonly distressed and suffering from psychotic symptoms despite any treatment received. Similar to findings in general adult services, the prisoners reported more needs than the staff rated and significantly more unmet needs than the staff (e.g., Slade *et al*, 1998).

These research findings have been reinforced by a HM Inspectorate Report (e.g., HM Inspectorate of Prisons, 2000; 2001) which stated that prisoners commonly have problems with housing, money, offending behaviour, drug and alcohol misuse, basic education (numeracy and literacy), and employment post release. The report called for services to address these problems as a matter of urgency.

The Toolkit approach

The dearth of individual level outcomes assessments suitable for prisoners and increasing pressure to devise a strategic health improvement plan led to a corporate model being developed in collaboration with the National Prison Task Force (Marshall, Simpson & Stevens, 1999a). A Toolkit (Marshall, Simpson & Stevens, 1999b) was subsequently developed providing the skeletal structure of a corporate model of needs assessment. It highlights service-orientated needs, such as manpower requirements, by determining the number of cases of particular 'health needs' such as tuberculosis and diabetes annually. The perceived need for particular services or interventions is then based on joint discussions between the healthcare provider services and the prison healthcare managers.

Marshall, Simpson & Stevens (1999) differentiate what they see as the greatest healthcare need of the prison population (services for mental health) from the greatest healthcare demand (for the treatment of minor treatment in primary care).

Patrick, Picken, Lewins, Cummings, & Parrott (2000) argue that the corporate service level models, such as the Jenkins (Jenkins, 1990) model and the Toolkit (Marshall, Simpson & Stevens, 2000b; 2001) approach, offer a step in the right direction as they identify improvements required at a service level and therefore can lead to the reallocation of scarce resources. However, they go on to say that a more comprehensive evaluation of the health care needs of the prisoners at an individual level is required. The previous studies by Hardie *et al* (1998), Harty *et al* (2003) and Thomas (2001) suggest that such an approach is feasible and would provide outcome data directly relevant to the development of mental health services strategies in prisons.

Summary

Maden (2003) argues that there may be a plan, a partnership and targets set, but like Birmingham (2003), he suggests that actually achieving these targets is another matter altogether. They concur that radical solutions are still required. A number of difficult challenges remain unanswered and improvements in screening, assessing needs and developing effective partnerships between services does not automatically ameliorate the significant problems facing HM Prison Service and the NHS. Qurashi (2002) agrees, arguing that the challenge is to try to manage prisoners' health care needs in a sub-optimal setting.

Prisoners are heavy users of health care services while they are in prison and as such place a heavy demand on resources. While it is generally considered that prison should represent an ideal situation (and opportunity) to address these problems, mentally disordered prisoners continue to present a significant challenge for health, social and criminal justice agencies. There remains a need to systematically assess the needs of mentally ill prisoners (e.g., Brooker et al, 2003; Department of Health, 2005) and determine how scarce resources can best be targeted to address complex patterns of need and offending behaviour.

There continues to be unwillingness on the part of the NHS to accept mentally ill prisoners (Birmingham, 2003). This stance only further contributes to significant levels of unmet need. The continued limited availability of secure psychiatric beds, despite recent increases in provision (Priebe *et al*, 2005), only adds to the delays associated with transfer out of prison to psychiatric services. Any positive changes in service provision will therefore require a significant shift in attitude, cooperation and collaboration between and within criminal justice and health services.

Chapter 3: Medium Security Psychiatric Services

It has been argued that medium security psychiatric services are superior to other NHS psychiatric services because of the range of specialist services available there, and their high quality physical environment. This chapter reviews the evidence in relation to defining the key characteristics of medium secure units (MSUs) and the characteristics of the patients who are detained/treated there. Research studies that have investigated outcomes with these populations are then considered.

Defining medium security in relation to service characteristics

The optimum composition of a MSU has previously been described in a design guide by the National Health Service Estates (1999). MSUs fit into a continuum of secure forensic services ranging from community forensic services, to open wards and those with 24-hour care, then low security, medium security and, at the top of the spectrum, high security care. However, the practicalities of being able to move a patient up or down the scale, to higher or lower security, are somewhat more complicated than this continuum suggests, and any placement requirements are usually dependent on a multitude of service and patient related factors. The practicalities of actually defining what different levels of security do and what they are there for therefore continues to prove problematic.

Various commentators have argued the need to differentiate between secure psychiatric services and prisons and have traditionally focused on the treatment versus punishment debate (e.g., Scott, 1970). The solution, according to Bluglass (1985), is to be able to provide the levels of security that are required in psychiatric facilities to contain these patients, but at the same time ensure avoiding the trappings and appearance of prisons.

Furthermore the actual practicalities of 'containing' patients in secure services depends on a complex balance between specific elements of the secure environment, the quality of nursing care, the control of the patients, and the motivation of the patients themselves (e.g., Parker, 1985).

The Butler Report (Home Office & DHSS, 1975) advised that MSUs should be near to centres of population and near to general hospital facilities, and range from between 50 to 100 beds but in some cases holding double that figure where local resources cannot be shared. The most crucial element of their role, according to the Committee Report was seen as accepting transfers of 'mentally abnormal offenders' from prisons as well as accommodating those patients leaving the high secure services of Broadmoor, Rampton and Ashworth Hospitals.

In trying to differentiate between different levels of secure provision Taylor, Maden and Jones (1996) propose that both qualitative and quantitative differences need to be taken into consideration, while Kennedy (2002) takes this argument a step further arguing that the whole problem lies in the fact that there is considerable variation even between the same levels of secure service, thereby leading to the inevitable conclusion that in some ways it is easier to define something according to what it is not rather than what it is. However this leaves the inevitable and long-standing problem of defining what the 'middle' is (i.e. medium security) in any clear way, with the conceptual ideas first voiced in the Butler Report (1975) still being echoed some thirty years later (e.g., Grounds, Melzer, Fryers, & Brugha, 2004) without these changes actually being made.

Developing a working definition of medium security

Taylor, Maden & Jones (1996) proposed the following definition:

> *'A purpose-defined medium-security unit (MSU) is defined by its particular combination of physical security and dedicated staffing. The physical security is regarded as essential, but the security provided by the staff structure and functions probably as more important.'*

They proposed that the 'physical security' of a MSU was provided mainly by the building itself, built in materials resistant to destruction, and with locked doors and 'domestic quality' perimeter fences or walls. Furthermore, on a staffing level, they argued the need for specially trained dedicated staff experienced in working in such services. These staff should have with up-to-date knowledge about the patients detained there, hence tapping into the equally important aspects of relational security.

Kennedy (2002) argues that mental health services can be described according to their security characteristics, and specifies relational, procedural and environmental security as key factors. He states that all mental health services stratify their services according to the risks posed by their patients, and that this is in line with the Reed Report (Department of Health and Home Office, 1992) and National Service Framework for Mental Health (Department of Health, 1999a) recommendations about providing care and treatment in the least restrictive setting possible.

Turning to these different types of security, relational security has been defined by the ratio of staff to patients and the concept of therapeutic rapport, i.e., time spent in face-to-face contact between staff and patients (Kinsley, 1998). Kinsley defined procedural security in terms of the monitoring of patient movements and communications and clinical governance frameworks. Here Kinsley also emphasized the need for risk management procedures, citing as an example the Royal College of Psychiatrists (1995) strategic guidelines relating to the management of violence and disturbed behaviour and staff-based interventions such as de-escalation, breakaway techniques, control and restraint, and the use of seclusion facilities and medication.

With these definitions in mind, Kennedy (2002) asserts that the key differences between low, medium and high security services can be found in the third type of security, namely 'environmental' security. His definition of this 'physical' security is broader than other definitions and includes levels of observation and the use of alarm systems. He argues that the key type of security in secure services relates to levels of staffing in the units, as it is the level of these staff to patient ratios that foster and maintain a safe environment or not.

The recent publication of the Tilt Report (Department of Health, 2000) following serious security problems at Ashworth hospital identified in the Fallon Report (Department of Health, 1999c) has had a significant impact on secure services. Given the fundamental lapses in security identified at Ashworth Hospital, one of the core recommendations of the Tilt Report was to review the capacity and capability of MSUs to care for patients discharged from the high secure hospitals. The focus of the Tilt Report was on procedural security and physical security. Exworthy and Gunn (2003) argue that although the tightening of these aspects of security was indeed necessary, such changes to

predominantly high secure services will lead to negative consequences for patients by increasing lengths of stay in high secure care. They also suggest that increased security will make it more difficult to provide therapeutic care, and will widen the gap between high and medium security.

Considering outcomes

Kennedy (2002) suggests that mental health services should be mapped according to their structure, processes and outcomes. He also argues that length of stay and the patients' pathways through care require consideration in parallel to stratifying services according to the risks posed by the patients. Processes refer to assessment, treatment, rehabilitation and continuing care. He defines outcomes as either 'hard outcomes' or 'soft outcomes'. The hard outcomes may include discrete and objectively measurable outcomes such as suicide, homicide or violence to others, periods of time that patients remain symptom free and without relapse, and continued contact with services in the community. The soft outcomes may include subjective measures of patient's satisfaction, public confidence, and measures of cost effectiveness.

Availability of resources and their impact on length of stay

The limited range of secure forensic psychiatric facilities are well documented in the literature. The inappropriate placement of certain groups of patients, for example of women and patients with learning disabilities in unduly high levels of secure care due to a lack of suitable lower secure placements (Department of Health and Home Office, 1992; Department of Health/NHS Executive, 1992), has led to service bottlenecks with patients requiring transfer both in and out of secure services facing inappropriate delays due to bed blocking (e.g., Reed, 1997; Maden, 2001). These service gaps are not a new phenomenon

because the Percy Report in 1957 reported the need to 'bridge the security gap' with alternative secure facilities. The Butler Report (Home Office and DHSS, 1975) reinforced these previously identified service needs suggesting the urgent need to develop two thousand medium secure beds, even though this may not be enough to meet the demand (Bluglass, 1985).

The Butler Report envisaged that medium security services should have a maximum length of stay of less than two years. Although always considered somewhat of an arbitrary figure, and one that clinicians have not been keen to adhere to (Taylor, Maden & Jones, 1996), the rationale for this figure was to discourage the accumulation of more or less permanent residents who could not be placed elsewhere (Bluglass, 1985). However, over the years it has become increasingly recognised that certain groups of patients will require longer-term care and treatment in either medium or low secure psychiatric facilities in order to tackle complex rehabilitative needs in a secure environment. An increasing recognition of these service related needs has been the recent funding of five hundred new secure beds, as detailed under the NHS Plan (Department of Health, 2001a) to meet the growing demand for services for patients requiring a degree of physical security greater than available in low security but not reaching the 'special' conditions of (high) security.

The Reed Report (Department of Health and Home Office, 1992) recommended that referral to medium security should be independent of projected length of stay, but several years later Taylor, Maden and Jones (1996) still referred to long-term medium security services as the 'service gap of the 1990s'. It could be that this sustained lack of specialist long-term services goes back to the recommendations of the Butler Report (Home Office and DHSS, 1975) which envisaged that any long-term secure care (i.e., over eighteen

months to two years) should be provided in high security and not MSUs. On the other hand it could be that MSUs are still in the process of being defined and developed as the special hospitals become more integrated into large mental health Trusts, and in light of repeated calls for the high secure hospitals to be closed (e.g., Gunn & Maden, 1998).

It therefore appears that there remains a lack of consistency as to how to define secure psychiatric services and any concrete definitions that clearly differentiate between the different levels of service available. Changes in the funding and organisation of forensic mental health services, an increase in secure beds (Priebe & Turner, 2003), and a need for alternatives to high secure care (e.g., Thomas, Leese, Dolan, Harty, Shaw, Middleton, Carlisle, Davies, Thornicroft and Appleby 2004b), have led to a change in the profile of patients in secure psychiatric services and therefore changes in the functional requirements and service based needs of these services.

Defining MSUs according to patient characteristics

Patients can be admitted to a MSU from a number of sources, including high security, low security and general psychiatric units, the criminal justice system via prison or court, or directly from the community. Despite their diverse origins, patients in secure services will arguably share certain core characteristics, albeit that this commonality will be limited by geographical variation in local morbidity and availability of resources (Kennedy, 2002). Coid, Kahtan, Gault, Cook & Jarman (2000b) asserted that MSUs held four types of patient: (1) those transferred from the criminal justice system on remand for assessment; (2) sentenced prisoners given a hospital order; (3) those transferred out of high security; and (4) patients admitted under civil sections of the Mental Health Act 1983 (Department

of Health & Welsh Office, 1983). Lelliott, Audini & Duffett (2001) agreed with this, defining an individual who would need a medium secure placement as:

> *'...a patient who is unsuitable for care within general psychiatric services and who requires specialist and/or secure care, but not at a level provided by a high security hospital'*

There appears to be a consensus that MSUs should cater for patients no longer needing high security; those admitted via the criminal justice system; and those who have been found to be 'difficult to place' elsewhere. Linked to this, great emphasis in the Kennedy model (2002) is placed on violence against the person, which he argues is instrumental in determining the level of security required, and other serious offences such as arson or sexual assault. Following this taxonomy, a person's 'placement need' will primarily be determined by the severity of their offending behaviour and the nature of their index offence. If someone is deemed to be a 'grave and immediate danger' to themselves or others they will, more often than not, end up in higher levels of security. Similarly, previous unmanageability or problematic behaviour will inevitably lead to admission to higher levels of security.

This approach fits with the views of Coid *et al* (2000b) who suggest that consideration of the 'gravity' [or severity] of the index offence [or behaviour] plays an important role in determining placement need. However their study, a retrospective case note analysis of 3396 admissions to MSUs over seven years, identified a group of patients who had not committed a serious index offence, but had extensive psychiatric histories and sometimes a history of serious offending, who had only short (and possibly inappropriate) admissions to

medium security. The authors therefore suggest that historical factors may make some patients unwelcome in general psychiatric services, but at the same time not actually warranting conditions of medium security. This would suggest that in addition to the index offence, psychiatric and criminal histories play integral roles in determining placement (e.g., Thake, Jobbins & Jones, 1998).

It could be argued that MSUs serve a number of different purposes, depending on the 'types' of patient in question. That they accept referrals from the whole spectrum of psychiatric and criminal justice agencies suggests a need for MSUs to be a 'Jack of all trades'. This would reflect the ongoing difficulties relating to inconsistent definitions and a lack of clear operational criteria for describing the functioning and running of MSUs, and suggests that any definition would more likely be reflective of the patient profile of the services.

Profiling the patients

In an attempt to build a coherent picture of MSUs and their patients a national study was commissioned by the Department of Health in 1998 to describe the admission procedures to medium secure services in England and Wales (Grounds, Melzer, Fryers & Brugha, 2004). On the basis of their findings, which included 98% of the MSU estate nationally, they reported that the basic profile of a patient requiring admission to a MSU could be defined an individual who (1) suffered from a mental illness; (2) had committed a serious act that was linked to the illness; (3) needed secure care; and (4) whose illness could be treated in medium security. However, in practice the story was somewhat different as they found that the actual admission criteria to these units were considerably more selective than one may have imagined. For example staff in MSUs were asked to complete around

two hundred assessments a month but only one in five were subsequently immediately offered a place and only another twenty percent were placed on waiting lists for a bed. The issues here are whether the MSU services are being too selective, or if there continues to be inappropriate referrals from other psychiatric services, or there is a lack of appropriate alternative services available locally.

The clinical characteristics of the patients may be implicated in this decision to admit or not. They found that a quarter of the MSU admission policies excluded patients with a primary diagnosis of personality disorder, and half of those with a primary diagnosis of drug or alcohol abuse, learning disabilities or organic brain injury. Early feedback from this study led to the development of new of centralised policies arguing the distinct and urgent need for such services, like step-down services for DSPD patients (Home Office/Department of Health, 1999). Because the demand for MSU beds is too great and not all patients/prisoners can be admitted, MSUs can essentially pick and choose whom they admit. The MSU policies and admission rates demonstrate the continued need for specialist secure services for longer-term rehabilitative care, as previously highlighted (e.g., Department of Health and Home Office, 1992; Thomas, Dolan, Johnston, Middleton, Harty, Carlisle, Thornicroft, Appleby & Jones, 2004).

Melzer, Tom, Brugha, Fryers, Gatward, Grounds, Johnson, & Meltzer (2004b) reported that generally the patients assessed for admission to MSUs had extensive psychiatric and criminal histories, and that those assessed in prison were more likely to actually be admitted than patients in other locations. Other prominent features of those referred to MSUs were high levels of co-morbid personality disorder and substance misuse disorders, non-compliance with treatment, and a history of serious violence against the person.

Interestingly those assessed as needing medium secure care were more likely to be non-compliant, to have features of acute schizophrenia, to have a history of sexually inappropriate behaviour to have self-harm problems, and be those who had recently been given custodial sentences. This pattern is reflective with Kennedy's (2002) model that argued that MSUs should focus on relational and environmental security, and reinforces the Butler Report (Home Office and DHSS, 1975) recommendations about prioritising patients who would be more likely to show a positive effect of treatment in the shorter-term.

As highlighted earlier a significant proportion of patients referred to or requiring medium secure care will be those patients no longer needing high secure care (Coid *et al*, 2001b; Lelliott, Audini & Duffett, 2001). A recent study of the high security psychiatric hospitals in 2001 (Thomas, Harty, Davies, Thornicroft, Leese, Appleby, Shaw, Dolan, Carlisle, Jones, Middleton, Hogue, Priddey, & Webster, 2001; Thomas, Dolan & Thornicroft, 2004) reported that 500 of the high secure population in England and Wales no longer needed high security and that more than three quarters of these 500 high secure patients required medium security. Interestingly twice as many of this sub-group were rated as requiring long-term (i.e., more than 2 years) medium secure care. The individual needs of these patients, rated using CANFOR-S (Thomas *et al*, 2003) suggested that they have on average nine different needs requiring some form of treatment, intervention or other support. Staff members reported that the most common problems for the men included in the 'need for transfer' group were physical health, daytime activities and psychotic symptoms. While most of their identified problems were considered met, treated or ameliorated by current service interventions in conditions of high security, more than a fifth of the men were reported as having continuing problems (unmet needs) with respect to sexual offending,

daytime activities and alcohol. The authors argued that as well as continuing to address problems that the high secure hospitals were effectively addressing, particular emphasis in medium security should be placed on the unmet needs identified.

Other characteristics of this group of patients were in line with the profile of MSU patients reported by Grounds *et al* (2004) and Coid *et al* (2001). The vast majority had committed a serious offence in the past (such as murder, violence, sexual offence or arson) and the most common diagnosis in for these men was schizophrenia, schizotypal or schizoaffective disorders. Although again of note, this study reported that 41% of those in need of lower (than high) security were diagnosed with personality disorders (Thomas *et al*, 2004b). Therefore these findings may further suggest that particular emphasis when considering admission to an MSU should be given to compliance with treatment and treatability *per se* (Melzer *et al*, 2004b).

Outcome studies with MSU patients

The continued deficit of appropriate numbers of secure beds to meet what has demonstrably become an ever-increasing demand has led to various calls to assess the outcomes resulting from admission to such units (e.g., Maden, Rutter, McClintock, Friendship & Gunn, 1999a). As already argued there has been some suggestion that there are different admissions policies between MSUs, but also differences between NHS and private sector facilities, due at least in part to the lack of NHS provision in certain geographical areas (e.g., Coid, 1991). Given the historical rhetoric concerning the disparities between individual MSUs and the heterogeneity of their patients, research has taken cautious steps forward, mainly describing the development and functioning of

individual services. Some outcome data has been presented about the relative 'success' of these services.

De Tarranto, Bester, Pierczhniak, McCallum & Kennedy (1998) compared patients in NHS and private sector services using individual measures of psychopathology, social behaviour and insight to inform service development. Interestingly the NHS MSU inpatients were more likely to have committed serious (violent) offences and more often against strangers, and had more substantial psychiatric careers than their private sector counterparts. By contrast, the private sector patients were more likely to be of white ethnicity, on civil sections, to have been transferred there after violent acts towards nurses and other 'professionals', and to have a significantly longer length of stay.

Maden, Rutter, McClintock, Friendship & Gunn (1999a) described a longitudinal follow-up of 234 patients discharged from an MSU over fourteen years. They considered short-term outcomes of violent conduct during admission, length of stay and placement on discharge; and long-term outcomes such as further offending, readmission and duration in exit destinations. Descriptively, as a group, the patients were around 33 years old, with half being admitted from the criminal justice system, just under a quarter from lower secure services, and 16% from high secure hospitals. The vast majority had established psychiatric careers with a number of previous admissions to psychiatric services, over half were on court imposed hospital orders and just under half had served a sentence in prison. While a fifth had not been admitted due to violence, a significant proportion had committed violent or other serious offences. They were most commonly diagnosed with schizophrenic disorders and there were high levels of co-morbid drug use recorded.

In a ten-year follow-up of a cohort of sixty-three patients discharged from a medium secure unit Baxter, Rabe-Hesketh & Parrott (1999) considered a range of objective clinical and criminal outcomes as well as self-reported ratings of need and satisfaction. They reported a relatively short length of stay (44 weeks on average), previous psychiatric history, high level of co-morbid substance misuse, and significant previous histories of criminal convictions. In terms of outcomes, multiple readmissions were common and rates of continued contact with services were high. Two thirds of the cohort re-offended violently. The patients on average reported that they had around seven needs according to the CAN (Slade *et al*, 1999) and generally reported mixed feeling about their satisfaction with the care they received. Furthermore, in terms of service utilization, patients were most likely to report seeing psychiatrists, community psychiatric nurses, general practitioners and social workers in the previous six months. This study provides a useful insight into subjective patient orientated outcome measures and the similarities and differences between staff and patient views of need, but is likely to under-estimate need because the CAN assessment used was not validated for use with forensic populations and does not cover the same range of need domains as the newly developed forensic version, CANFOR (Thomas *et al*, 2003).

Pierczhniak, Purchase, Kennedy, Farnham, De Tarranto, Bull, Gill, Bester, & McCallum (1999) assessed the service needs of patients originating from North London who were in medium and high security with the aim of addressing the severity of illness, risk management and local sensitivities to improve secure provision. A multidisciplinary panel were asked to assess each patient's placement needs at three times points (at that current time, in two years time and in five years time) from vignettes developed for each patient describing historical issues and current treatment plans. The medium secure group were on average 34 years old, a large proportion (31%) were of black Caribbean ethnicity, they had

been in medium security for over 17 months on average, and the majority had committed a serious offence which had led to their admission. A wide variety of placement needs were thought to be required by the MSU group and suggested a lack of longer-term low secure and community placements to be the main service gap. The projected placement needs for secure beds were much lower than other studies. The authors attribute this to the fact that the assessing panels were made up of clinicians with a good working knowledge of local services available as opposed to RMOs with little knowledge about locality services that were available. However arguably such placement projections may over-estimate placement in lower settings, which are in fact dependent on multiple social, clinical and functional factors not implicit to the assessment process utilized in this methodology.

McKenna, Shaw, Porceddu, Ganley, Skaife & Davenport (1999) described a survey of patients from one region in high secure hospitals who were rated as needing long-term medium security. They were described as having enduring and treatment refractory disorders with a high level of positive and negative symptoms, with extensive psychiatric histories and marked social and functional disabilities, therefore suggesting the need for high levels of supervision and continuing care for a sustained period of time (e.g., Shaw, McKenna, Snowden, Boyd, McMahon & Kilshaw (1994). This group were older than the other MSU inpatients previously described (e.g., Baxter, Rabe-Hesketh & Parrott, 1999; Maden *et al*, 1999a; Pierczhniak *et al*, 1999) due mainly to a lengthy period of detention in high security and therefore represent a distinct group among the national MSU population, as described in the study by Thomas *et al* (2004b).

Brown, Lloyd & Donovan (2001) conducted a retrospective study that sought to investigate trends in admissions, discharges and length of stay in a MSU in South West

England over a fifteen-year period between 1983 and 1997. Records showed that transfers from the criminal justice system were the commonest sources of admission and that the vast majority were detained under criminal proceedings of the Mental Health Act 1983 (Department of Health & Welsh Office, 1983). Interestingly the study demonstrated what appears to be a significant shift in length of stay, with the average detention lasting between sixteen and seventeen months in the more recent years as opposed to an average of eight months some twenty years ago. The significant limitation with this paper was that no other clear data are presented, only bar charts, with the authors simply noting that the demographics of the patients were comparable to other studies. Any inferences or comparisons from this study are therefore limited.

Edwards, Steed & Murray (2002) described a follow-up study that tracked over two hundred first time admissions to a MSU for five years. The majority of the patients admitted to the MSU came from the criminal justice system, had committed a serious index offence and had extensive psychiatric and criminal histories. Outcomes were considered in terms of objective clinical and forensic domains. At the two-year follow-up two thirds were still in psychiatric hospitals, the overwhelming majority of which were in MSUs. Their mean length of stay was 26 months, and the vast majority were still in contact with services at the five year follow-up suggesting not so much a compliant group but rather a group with a high proportion of patients on restriction orders. Reconviction rates for those who stayed in MSUs and those discharged to the community were low at 2 and 5-year follow-ups. Although these are relatively crude measures of 'quality of life', they suggest that these service level outcomes would be useful performance indicators for MSUs, arguing that 'success' is inherent to outcome on forensic psychiatry.

A further longer-term national follow-up study of 959 patients discharged from MSUs between 1st April 1997 and 31st March 1998 (Maden, Scott, Burnet, Lewis & Skapinakis, 2004) also reported a low reconviction rate with only 15% of the cohort reconvicted and only 6% for a violent offence. Factors associated with being reconvicted were having a history of sexual abuse, previous convictions, substance misuse problems and being out of contact with services, while longer length of stay and having a history of self-harm were protective factors and reduced the likelihood of reconviction. Eighty-eight percent of this national sample were men and 30% were of non-white ethnicity.

Over-representation of ethnic minorities

Recent literature suggests that certain ethnic minority groups are over-represented in medium security (Baxter, Rabe-Hesketh & Parrott, 1999; Maden, Friendship, McClintock & Rutter, 1999b; Pierczhniak *et al*, 1999; Edwards, Steed & Murray, 2002; Gudjonsson, Rabe-Hesketh, & Szmukler, 2004) although reasons for this remain unclear; with no differences evident with respect to historical factors, clinical state behaviour or social functioning (Lelliott, Audini & Duffett 2001). Coid, Kahtan, Gault, & Jarman (2000) found that black Caribbean men were six times were likely to be detained in secure forensic services than white men, while Maden *et al* (1999b) reported that three times as many African-Caribbean patients were admitted to MSUs than white patients. The same rate was reported in the study by Lelliott, Audini and Duffett (2001). Interestingly in the Maden study (Maden *et al*, 1999b) the black patients were 2.4 times more likely to be diagnosed with schizophrenia but four times less likely to have a primary diagnosis of personality disorder than the white patients. A recent review by Ndegwa (2002) supports this finding suggesting that people of black Caribbean descent are much more likely to be

diagnosed with schizophrenia than other ethnic groups, while other mental disorders (particularly personality disorders) are diagnosed far less commonly with this ethnic group.

This clear, sustained over-representation of black patients in medium security may be attributable to the diagnostic preferences in admission criteria for MSUs (Grounds *et al*, 2004a). However Maden *et al* (1999b) point out that the relationship is far more complicated than this and could be related to co-morbid substance use and poor health outcomes associated with the treatment complications these disorders bring with them. Interestingly a further follow-up study by Maden *et al* (2004) suggests that non-white ethnicity is related to an increased likelihood for reconviction for those patients discharged from MSUs and despite this association not being significant it warrants further investigation in relation to outcome assessment.

Summary

There remains a lack of consensus between service providers, clinicians and researchers as to the optimum composition and role of forensic mental health services. The lack of consistency between medium secure units is probably more reflective of the particular specialised needs of their patients and geographical variation in service provision, such as the proximity to high secure and prison services, rather than a lack of a centralised developmental plan *per se*.

Maden *et al* (1999a) described medium secure services as being high cost and low volume and restated that there simply were not enough beds to meet the sustained (and ever increasing) demand from psychiatric services and the criminal justice system. They argued that it was not really possible to describe what a medium secure unit actually did by

describing the patients detained there because even though they could be seen as a successful point of diversion out of prison, half the beds were occupied by those who could not be managed in lower security services because of their offending or challenging behaviour. Therefore, they concluded that medium security described the conditions in which treatments were given as opposed to the treatment itself.

This may be reflective of the inherent difficulties Grounds *et al* (2004a) discussed in defining and describing what 'medium' was. This may also explain the perceived (and apparent) exaggerated heterogeneity of the patients detained in medium security and the diversity of treatments, length of stay and other security factors that need to be provided to meet their needs. This would explain why clinicians and academics continue to struggle to define these services in any consistent fashion but also why the sheer range of services provided and diverse skill mix of staff leads to them being considered as the best the NHS has to offer.

The lack of suitable alternative secure treatment options available has inevitably led to this unenviable situation of medium secure units having a duality of roles and an increasing pressure to accept patients who do not neatly fit the moulds of the very different services provided in high security, low security and general adult psychiatric services. Outcome studies focusing on service-orientated outcomes may therefore be of limited practical use due to the different demands and expectations the patients place on services. This could therefore suggest that an individual level approach, using specifically adapted, forensically orientated (and culturally appropriate) outcome measures that include both subjective (patient self-report) and objective (staff rated) outcomes may be of more practical utility in

determining what kinds of patients are best served by MSUs and how the services themselves compare with other secure services (including prisons).

Chapter 4: Rationale and Methodology

4.1 Rationale for study

Several studies have highlighted ongoing inconsistencies in health care provision between and within HM Prison Services (e.g., Reed & Lyne, 1997; Reed & Lyne, 2000). Despite wide acknowledgement that people with severe mental illnesses should ideally be cared for by NHS or equivalent psychiatric facilities (e.g., Department of Health and Home Office, 1992; Department of Health, 1999a) and diverted out of the criminal justice system, a significant number of mentally ill people can be found in the prison system (e.g., Gunn *et al*, 1991; Brooke *et al*, 1996; Singleton *et al*, 1998). In spite of this, little research has been carried out to examine to what degree individual needs can actually be met in prison healthcare settings. Comparisons between existing data sets are limited by inconsistent methodologies, sampling strategies and assessment techniques used. Therefore, the key questions about the degree to which health and social needs can be met in prison and the level of equivalence actually achieved between mental health care services in prison and NHS mental health services remain unanswered.

There remains a need to evaluate mental health services using consistent, standardised and appropriate outcome measures. With the developing ethos of providing a continuous and seamless care pathway into and though mental health services there also remains a need to evaluate mental health services over time so that services can be developed, evaluated and reconfigured according to assessed needs. The recognition that prisoners should be entitled to the same quality and range of health services as the general public (Department of Health, 1999a) means that such evaluations should include mental health services operating in the prison estate.

Justification of selection of comparator

The decision to select MSUs as the comparator to the prison sites was based on several criteria:

1. MSUs provide well-resourced inpatient services with advantageous staff: patient ratios and, in most cases, modern facilities (e.g., Maden, 2001).
2. It can be argued that MSUs provide the best care and treatment a prisoner could expect to receive from the NHS (e.g., Maden, 2001)
3. A high proportion of MSU inpatients have been transferred from prisons for assessment and/or treatment (e.g., Maden *et al*, 1999a; Melzer *et al*, 2004)
4. The forensic profile of MSU inpatients resembles the profile of patients in prison healthcare settings (e.g., Lelliott, Audini & Duffett, 2001; Edwards, Steed & Murray, 2002).

4.2 Search strategy

Key words selected for the search strategy included "prisoner", "prison health", "mental health prison", "needs assessment", "medium security", "mentally disordered offender", "outcome measures", "outcome assessment" and "unmet need". Electronic searches were carried out using EMBASE, MEDLINE, PsycINFO and CINAHL. Copernic and Google web-based search engines were also utilized. In addition, electronic journals were searched as well as paper copies of journals held in medical libraries. Other relevant publications were sought by referring to the bibliographies included in published papers and reports as well as publications listed on the Department of Health, Home Office, and HM Prison web sites. Searches were repeated at three-monthly intervals in order to identify new and emerging literature.

4.3 Research Question

The principal research question was whether prisons could adequately provide health services to meet the needs of prisoners with mental health problems, or whether they should be transferred to NHS psychiatric services. In order to answer this research question five experimental hypotheses were investigated:

4.4 Experimental Hypotheses

Hypothesis 1: HCC prisoners will have the same number of needs as MSU inpatients but significantly more unmet needs

Hypothesis 2: Satisfaction with services will be significantly higher in HCC prisoners than in patients in MSUs

Hypothesis 3: Profiles of need will differ significantly between HCC prisoners and MSU inpatients

Hypothesis 4: There will be a significant association between patient views of satisfaction and need

Hypothesis 5: HCC prisoners will accrue significantly less costs in relation to service contacts as compared to MSU inpatients

The experimental hypotheses were generated, based on a synthesis of the literature review previously described. Hypothesis 1 was based on previous studies of prison and inpatient forensic populations suggesting that prisoners have high levels of unmet need, and the

principles of the 'Inverse Care Law' described by Hart (1971). Hypothesis 2 could be considered counter-intuitive, as prisons have consistently been highlighted as being inadequate in the care and treatment they provide. However the hypothesis was based on the premise that although the HCC prisoners would have access to far less variety of activities they would value their time out of cell more and therefore would be more satisfied with the care and treatment they received; the notion being 'less is more'. Hypothesis 3 was based on previous research findings that highlight that needs are dependent on time, place and circumstances and that different needs will become priorities at different stages of the care and treatment programme. Hypothesis 4 was based on findings from health services research that has suggested a strong association between self-reported unmet needs and satisfaction with care, in that lower levels of unmet needs are associated with higher levels of self-reported satisfaction. Hypothesis 5 was based on findings suggesting that prisoners have much more restricted access to mental health services than MSU inpatients.

4.5 Sample

Two groups of study participants were recruited. The HCC prisoners were drawn from HMP Belmarsh and HMP Brixton, which are both local male prisons in South East London. Both prisons have inpatient healthcare units (HMP Belmarsh had 38 beds and HMP Brixton had 37 beds at the time of the study) and run multidisciplinary mental health care services, including outpatient, day care and in-reach services and dedicated therapies units, for their inmates. The inpatient healthcare unit at HMP Belmarsh had three 'wards' each holding a maximum of six prisoners (containing prisoners on close level observations, under assessment or at risk of self-harm or suicide) while the remainder were in single cells. All of the beds in the inpatient healthcare unit at HMP Brixton were single cells.

Both inpatient healthcare units care for prisoners with physical health problems as well as those with mental health problems.

The MSU inpatients were drawn from three MSUs in South London & Maudsley NHS Trust and Oxleas NHS Trust. They were the Denis Hill Unit, a 29-bed unit in the Bethlem Royal Hospital in Beckenham, Kent, which provides care for patients from the London Boroughs of Southwark and Lambeth; Cane Hill, a 23 bed unit in Coulsdon, Surrey, which provides care for patients in Lambeth; and the Bracton Centre, a 62-bed unit in Dartford, Kent, which provides care for residents of Lewisham, Bromley and Bexley. All of the MSU inpatients in all three sites had single rooms. A breakdown of staffing levels in each of the five units included is provided in **Appendix A.**

4.6 Inclusion and exclusion criteria

4.6.1 Inclusion Criteria

Participants were eligible for inclusion in the study if they were:

- Male
- Aged 18 to 65 years old
- Had a determinable Mental Health Act 1983 diagnosis according to ICD-10 categories (WHO, 1992)
- Resident on the HCCs in prison or inpatients in the selected MSUs

4.6.2 Exclusion Criteria

Participants were excluded from the study if they were:

- Female (as there were females at only one of the MSU sites and the prisons in this study catered only for male prisoners)
- Insufficiently fluent in the English language to comprehend the meaning of the questions contained in the assessments
- Too physically unwell to complete the interview
- Too mentally unwell to give informed consent
- Not able to consent to take part in the study for other reasons
- Thought to pose significant risks of harm to the researcher, themselves or others
- No longer in the HCC in the prison or the MSU, i.e., they had been transferred out before the interview could be completed

4.7 Power Calculation

The power calculation was based on two hypothesized differences between the HCC prisoners and MSU inpatients. These were that HCC prisoners would have an average of two more unmet needs than MSU inpatients, out of a possible twenty-five needs recorded on the Camberwell Assessment of Need Short Forensic Version (CANFOR-S) (Thomas *et al*, 2003); and secondly that HCC prisoners and MSU inpatients would differ by ten points on the Global Assessment of Functioning sub scales of symptoms and disabilities (Luborsky, 1962; APA, 1994).

The power calculation was carried out in STATA (StataCorp, 2002) using the *sampsi* command. Incorporating a standard significance level (alpha) of 0.05 with a sample of 50 HCC prisoners and 70 MSU inpatients, a minimum power of 99% would be achieved in relation to both the Camberwell Assessment of Need Forensic Version and Global Assessment of Functioning.

4.8 Assessments

The assessment instruments selected for piloting and for the substantive study were mainly well established and standardised assessment scales that have been developed and used in either general and/or forensic mental health services research previously.

All of the instruments were piloted on a group of ten patients in one of the HCCs, who constituted a convenience sample. Piloting revealed that prison staff, especially prison officers and discipline staff without specialist mental health training, were not confident enough to complete questionnaires about the needs or functional level of the prisoners. One of the principal reasons for this was the reported short length of stay of mentally ill prisoners on the inpatient units and lack of background information known about them. It was therefore decided to only complete the care coordinator assessments in instances where staff reported having sufficient knowledge about the individual prisoners.

4.8.1 Patient Rated Assessments

- **Socio-demographic data** were collected using a standard interview *pro forma* designed specifically for use in this study. Questions included number of previous prison terms, number of previous psychiatric admissions, postal region prior to admission/incarceration, ethnicity, place and country of birth, marital status, previous employment, Section of Mental Health Act 1983 detained under, source of admission, psychiatric history, offence histories, and index offences or reasons contributing to current incarceration/admission. The full scale can be found in **Appendix B.**

- **The Camberwell Assessment of Need Forensic Short Version (CANFOR-S)** was used as an assessment of individual level needs (Thomas, Harty, Parrott, McCrone, Slade, & Thornicroft, 2003). CANFOR is a recently developed version of the Camberwell Assessment of Need (CAN) (Phelan, Slade, Thornicroft, Dunn, Holloway, Wykes, Strathdee, Loftus, McCrone, & Hayward, 1995; Slade, Phelan, Thornicroft, & Parkman, 1999) suitable for use in forensic populations. The assessment highlights what can be frequent problem areas for forensic mental health service users. Where difficulties in a 'need domain' are identified, the perceived 'need' is categorised as 'met' if current interventions ameliorate difficulties in that area, or 'unmet' if there is no help currently being received or the help being received is perceived to be ineffective. In this study the short one page summary version of the assessment was used to capture current needs according to 25 broad health, social and functional need domains. Each answer is recorded numerically to reflect each domain as being no problem (a score of 0); a met need (a score of 1); an unmet need (a score of 2); not applicable (a score of 8, possible for six of the items); or not known (a score of 9, if the respondent did not know or did not want to answer the question). Results are routinely summarised in relation to the total number of needs (adding the number of domains scoring a 1 or a 2 to give an indication of the types and ranges of difficulties present), and total number of unmet needs (the number of domains scored as a 2 to give an indication of ongoing difficulties and areas in need of further assessment/treatment). The total number of met needs can also be calculated as the total number of 1's scored out of the 25 domains, giving the assessor an indication of current difficulties that are being well treated/addressed/met by current interventions and help from family members. The full scale can be found in **Appendix B.**

- **A Forensic Addictions Screen** was developed specifically for use in the study to detail illicit drug and alcohol use/misuse, as there were no suitable or standardised drug and alcohol screens available at the time the study commenced. The scales available did not address long-standing problems with substances or capture issues associated with offending behaviour or deterioration in health. Therefore the screen was developed to document difficulties from a historical perspective, problems perceived in the lead up to their current detention (the last six to twelve months before detention), and current difficulties. These questions were initially derived from questions in the Alcohol Use Disorders Identification Test (AUDIT) (Reinert & Allen, 2002) and Drug Abuse Screening Test (DAST) (Skinner, 1982) and based on a screen used in an addictions unit at Broadmoor Hospital. This screen included expanded areas covering the frequency and severity of use/misuse as well as asking for individual's perceptions as to how the consumption/use of such substances may have affected them individually and/or caused difficulties with relationships with other people. Questions covered included if they thought their alcohol (or drug) use was a problem for them; if their use was associated with any cultural or religious beliefs; and the impact their use may have had on their relationships with others, on their health, and whether their use was associated with coming into contact with criminal justice agencies. Time frames of interest were historical (up to a year before their current incarceration) and current (any current use of drugs of alcohol). Answers were recorded on the assessment in a combination of discrete categorical boxes or according to four point likert type scales and reported accordingly. The full scale can be found in **Appendix B.**

- **Beck's Scale for Suicidal Ideation (BSS)** (Beck, Kovacs & Weissman, 1979) was used as a measure to document thoughts or intent of suicidality during the last seven days. The assessment contains three sections. The first section acts as a screen for suicidality, with a positive score on either of two of the first five questions leading to a 'screen positive' response. Therefore having any desire to want to harm yourself or reporting that they would take a chance on life or death if they found themselves in a life-threatening situation would lead to a 'screen positive' and hence further questioning with Section 2. However, if participants screened negative on Section 1, Section 2 was omitted so only Section 3 questions followed. Section 2 documents current suicidal intent using a more in-depth set of questions for those screening positive in section 1. The third and final section asks the interviewee if they have ever attempted suicide before and, if so, how strong their wish to die was at the time of that incident. All three sections are scored according to a three point likert type scale (0, 1 or 2) with higher scores reflecting greater severity or suicidality. Scores from sections 1 and 2 are added together to give a total score out of a possible 40, again with higher scores being reflective of greater suicidality. The full scale can be found in **Appendix B.**

- **The Verona Service Satisfaction Scale (VSSS-54)** (Ruggeri & Dall'Agnola, 1993) was used to measure user opinions about the mental health services offered locally. Satisfaction with specific aspects of the mental health services are measured according to a series of statements with a standard series of possible responses scored according to a five-point likert-type scale (very satisfied, quite satisfied, mixed views, quite dissatisfied, terrible). Two more qualitative questions were included at the end of the questionnaire that sought to ascertain what was

considered especially good and/or bad about the mental health services in the MSU or prison. It should be noted that data available from these questions were limited. All questions were based only according to the type of placement at time of interview to reduce any potential bias that could be introduced where an individual may have been in contact with both prison health services and NHS psychiatric facilities in the last year. Generally, all questions were posed as to their experience with the service during the last year.

This measure has been used extensively in adult mental health service evaluations (e.g., Ruggeri, 2001), but not with prison samples. Piloting revealed that a number of the questions were not relevant to the participants as friends or family may not have been in contact with the mental health services or otherwise involved in their care or treatment. As not applicable scores were not possible on the likert scale, such responses were scored as neutral (i.e., neither satisfied or dissatisfied) and then recoded as missing variables in the completed data set. Due to the missing data for some questions, overall levels of satisfaction were therefore based on proportions of valid satisfied and unsatisfied responses. Measures of satisfaction were coded according to seven dimensions: global satisfaction, skills and behaviour, information, access, efficacy, types of intervention, and relative's involvement. The full scale and details of the individual questions used to calculate these dimensions can be found in **Appendix B.**

- **<u>The Physical Health Index</u>** (from O'Driscoll and Leff, 1993) was adapted to cover common physical health and critical illnesses currently experienced by patients/prisoners. Where current or longstanding problems were identified, the

level of care required was also documented. Each current physical health problem and critical illness was documented. Results are reported descriptively in relation to the number and types of physical health problems reported. The full scale can be found in **Appendix B**.

- **A Service Use Questionnaire** was incorporated into the study in order to examine the utilization and cost of health care resources of the study participants. Information was collected using an adaptation of the Client Service Receipt Inventory (CSRI) (Knapp & Beecham, 1990; Beecham & Knapp, 1992) which was used to derive service costs for each prisoner/patient over the previous six months. Core areas of interest were housing/accommodation; hospital contacts (including inpatient, outpatient, day care and accident and emergency); health, social and voluntary sector professional contacts; criminal justice contacts; chaplaincy contacts; and use of psychotropic medication.

  For accommodation and hospital contacts the number of days spent in each different type of housing and hospital were recorded; then frequency and average duration of contacts with health, social, voluntary sector, criminal justice, and chaplaincy personnel over the last six months were recorded. Additional data were collected on use (and doses of) psychotropic medications where appropriate.

  We used information available in Netten & Curtis (2003) to calculate generic service costs. The unit costs in Netten & Curtis (2003) apply to a single 'service contact' with different health professionals. For example, a Social Worker working with adult service users costs £93 per hour of face-to-face contact, while a Consultant Psychiatrist costs £210 per hour of patient contact. Therefore if one of

the study participants reported seeing their Consultant Psychiatrist (RMO) once a week for an average of 10 minutes over the last six months they would have seen the RMO 24 times (or for a total of 240 minutes, 24 contacts each lasting 10 minutes). Therefore, the costs incurred for these contacts would be £210 per hour for 240 minutes (or 4 hours), or £840.

The costs for more specialist and voluntary services standard costings that were not available in Netten & Curtis (2003) were ascertained from published annual reports from individual organisations, or proxy measures where otherwise unavailable. For example, a telephone contact with the Samaritans has been costed as £2.19 per contact without limit of time, and a session of group therapy was costed as the cost of a psychologist for the duration of the session divided by the number of people in the group (where possible to determine). The full scale and a list of unit costs utilized can be found in **Appendices B and C respectively.**

- <u>**The Comprehensive Psychiatric Rating Scale (CPRS)**</u> (Åsberg, Montgomery, Perris, Schalling, & Sedvall, 1978) was used as a measure of psychopathology. The severity and frequency of psychiatric symptoms were rated according to a condensed scale (no real problems, mild, moderate to severe, severe to very severe) using the last two weeks as the time frame of interest. Scores recorded here were adjusted to reflect the scoring scale and normative data presented in Åsberg *et al* (1978). Interviewer ratings 'trumped' patient self-report responses where symptoms were clearly evident but denied by the participant. Results are detailed in relation to total scores (adding all responses together) and the presence of

significant symptomatology, specifically the MADRS depression subscale of the scale. The CPRS can be found in **Appendix B.**

4.8.2 Staff Rated Assessments

4.8.2a Primary Nurse/care coordinator assessments

- **The Camberwell Assessment of Need Forensic Short Version (CANFOR-S)** (Thomas *et al*, 2003) was also used as an assessment of individual level needs from a staff perspective, principally the designated care co-ordinator where possible and practicable. An overview of the assessment is provided under the 'Patient Rated Assessments' section above. The CANFOR can be found in **Appendix B.**

- **The Global Assessment of Functioning (GAF)** (Luborsky, 1962; DSM III-R, APA, 1987) was used as a measure of daily functional ability, again where possible and practicable. The GAF has previously been used extensively as a proxy measure of 'functional disability' rating symptomatology and social disability in mental health services research. Symptoms and social disability are rated according to continuous scales (between 90 and 0) and results are reported in relation to the lowest level of functioning and greatest severity of symptoms over the last month. Lower scores are reflective of more severe symptoms and/or lower functional ability. The GAF can be found in **Appendix B.**

4.8.2b Consultant Psychiatrist assessments

- **The Nottingham Acute Bed Use Schedule (NABUS)** (Beck, Croudace, Singh, & Harrison, 1997) was adapted to capture the placement needs of those patients identified as requiring transfer from their current placement to other prison or

psychiatric facilities (e.g., Thomas, 2001; Thomas, Harty, Davies, Thornicroft, Leese, Appleby, Shaw, Dolan, Carlisle, Jones, Middleton, Hogue, Priddey, & Webster, 2001.). This instrument was initially utilised in the Nottingham Acute Bed Study and has previously been adapted for use in high security psychiatric hospitals and been shown to have acceptable face validity (Harty, Shaw, Thomas, Dolan, Davies, Thornicroft, Carlisle, Moreno, Appleby, & Jones, 2004; Thomas, Leese, Dolan, Harty, Shaw, Middleton, Carlisle, Davies, Thornicroft, & Appleby, 2004). This was completed by the Consultant Psychiatrist and where possible by consensus opinions with either the Specialist Registrar (SpR), Senior House Officer (SHO). Results are reported in discrete categories in relation to the need for transfer, what type of service was required, and if there has been any delay in transferring the participants to their recommended placement. The NABUS can be found in **Appendix B.**

- **ICD-10 diagnoses (WHO, 1992)** were collected using consensus methods (where possible) with the Consultant Psychiatrist, and either the Specialist Registrar (SpR) or Senior House Officer (SHO). Multiple diagnoses (up to five per patient) were recorded. The psychiatrists were specifically prompted about the possibility of co-morbid substance misuse and/or personality disorder. In cases where face-to-face meetings were not available with the psychiatrist diagnoses were collected from the most recent Tribunal Report for each patient or by telephone conversation. In some cases the Consultant Psychiatrist recommended using the Tribunal Reports instead of face-to-face interviews due difficulties arranging a convenient time to meet. Results are reported according to the frequencies of primary, secondary and up to four subsidiary diagnoses. Diagnostic assessments were not completed.

4.9 Data Sources

- Patient views reporting background sociodemographics, criminal and psychiatric history, individual needs, use of illicit drugs and alcohol, service use, physical health, suicidal ideation, and satisfaction with services.

- Staff views (Primary Nurse or Care Co-ordinator) reporting on individual need (CANFOR-S) and functioning level (GAF) where possible and practicable.

- Consultant Psychiatrist/Responsible Medical Officer (RMO) views on current placement need and consensus clinical diagnoses for each individual (in consultation with other members of the medical team where possible and practicable).

- Case notes (Inmate Medical Records (IMRs) and NHS Medical Records) to corroborate key sociodemographic information and relevant background information pertaining to previous offending and psychiatric history. This data source was only utilised where individual consent was gained from the participants and documented on the consent form.

4.10 Ethical Considerations

Ethical approval was granted by the South-East Multi-Site Research Ethics Committee (MREC) (**MREC01/12/25**) and the host institution (Institute of Psychiatry) covering the Medium Secure Psychiatric Units in South London and Maudsley NHS Trust (Cane Hill and the Denis Hill Unit). Ethical approval for the Bracton Centre MSU was granted from the three relevant Local Research Ethics Committees and Oxleas Trust R&D Committee.

Consent to approach individual patients was obtained from the Responsible Medical Officer, Head of Healthcare, and Prison Governor for the prison sample, and the Clinical Director and Consultant Forensic Psychiatrists for the MSU inpatients.

Particular care was exercised when approaching the individuals eligible for inclusion in the study due to the personal nature and general sensitivity of the content of some of the questions. Participants were advised that were not obliged to answer any questions. The limits of confidentiality, in relation to an individual reporting current suicidal ideation/intent or planned violence towards other named persons, were reiterated in all cases prior to commencing the interview and at timely intervals during the interview. All participants were encouraged to discuss any emotions arising with their key workers. Any concerns arising from the interview were reported in general terms to staff so that closer monitoring and/or supervision could be considered.

4.11 Sampling strategy

Individual census dates were used, one for each of the five sites included in the study. This method was selected to reduce attrition resulting from the use of a single census date and therefore maximised the availability of the potential sample populations. The HCC prison groups at HMP Belmarsh and HMP Brixton were completed first, then the MSUs.

For the HCC prisoners it was hypothesized, based on previous studies that the consent rate would be approximately 80% (e.g., Senior *et al*, submitted) and that between 15 and 20% of the prisoners on the healthcare unit would not be mentally ill (i.e., only be there for physical health reasons). The total potential sample size achievable from the two prisons

was 75 prisoners. Therefore, in order to reach the recommended sample size of 50, all 75 were considered for inclusion in the study. All those meeting the inclusion criteria were approached.

For the MSU inpatient group it was assumed that approximately 75% of the sample would consent to participate. This was based on published consent rates from previous studies. The total potential sample size achievable from the three units if all patients participated was 114 patients. A sample of 70 was required, therefore a sampling frame of two out of every three patients was adopted in order to reach minimum recommended numbers. To achieve this ward lists were generated and, starting with the first patient on the list, every third eligible patient was selected. Each unit list was looped (i.e., once the bottom of the list has been reached the researcher started again at the top of the list omitting those already approached) to allow continuous selection of patient/prisoner names until either all patients had been approached or the sample size of two thirds of the patients on the unit had been reached.

Due to the mobile nature of the prison populations (i.e., both contain large numbers of remand prisoners with a rapid turnover) all of the prison inpatients were sampled via a consecutive series of eligible admissions to the healthcare units. All suitable patients were approached until sufficient numbers were recruited (a minimum of 25 participants at each prison).

4.12 Procedure

Individuals eligible for inclusion were approached by the researcher and familiar member of nursing (or prison) staff to facilitate introductions and to initiate the process of

ascertaining consent. A standard description of the study was provided by means of an (Ethical Committee) approved written Information Sheet (**See Appendix D**). The researcher also engaged in an informal conversation with each potential participant, described the study, and answered patients' questions about the content and duration of the interview. After this initial discussion, each potential participant was given at least twenty-four hours to decide if they wanted to participate. Participants were only interviewed with their informed written consent (See **Appendix D** for the Ethics Committee approved Consent Form).

When an individual refused to participate in the study, the next unselected patient on the list was approached. This process continued until either (a) all of the HCC prisoners meeting the inclusion had been approached; or (b) the required sample was reached. For the MSU inpatients, the selection process continued until either (a) two-thirds of the patients on each of the wards agreed to participate; or (b) all of the patients on the ward had been approached.

If an individual declined to participate in the study, the researcher then enquired as to the reasons why and asked if they would agree to be approached again at another more convenient time. Eligible individuals were approached up to three times to ask if they would like to participate. If they declined three times (or declined strongly on previous approach) they were then recorded as a refuser.

The researcher continued to liaise with clinical staff about the well being of patients whose mental or physical state rendered them unfit to consent to the study on the original census date. In cases where the patient's condition improved to an extent that he became fit to

consider consent, the researcher approached these patients and sought consent to enter the study.

For individuals who gave verbal consent to participate in the study a mutually convenient time was agreed to commence and complete the interview. All interviews were conducted on a one-to-one basis in a quiet room with limited extraneous interference. At the start of the interview, the researcher and study participant discussed the content of the assessment questions. When the participant verbally agreed to proceed, they were asked to sign the consent form. Separate consent forms were used for the face-to-face interview and for access to their medical records if required. All participants were informed that the researcher would be approaching their care coordinator/primary nurse to collect additional data about their mental health and needs, and their Consultant Psychiatrist about the appropriateness of their diagnosis.

For those individuals who decline to take part in the study interview, consent was sought from them for access to medical records so that a comparison could be made between participants and refusers on some standard variables, including age, ethnicity, Mental Health Act 1983 Section detained under, and ICD-10 diagnosis.

4.13 Data Collection, Entry and Validation Procedures

Each participant was allocated a unique study number from a master list kept under lock and key by the researcher in accordance with provisions of the Data Protection Act 1998. This unique identifier number was used on all paper and electronic copies of the data collected and stored. No individually identifiable information was recorded on paper or electronic files.

All data were collected on standard *pro formas* designed specifically for use in the study. Raw data were recorded directly onto the *pro formas* by the researcher using categorical tick box criteria, as free text with direct quotes from the participants, and according to likert-type scales (unless otherwise specified, e.g., with service use questionnaire). Copies of the likert type response scales were made available to all participants. Clarification was sought regarding any ambiguous responses that did not fit response categories.

Raw data were entered onto a specially designed relational database in Microsoft Access. The database was designed so that data items could be entered from individual assessments in discrete layers in a tabular format mirroring the paper copy of the assessment. This method of data entry was selected to reduce data entry errors. Data input masks that limited keystroke errors were also included and built-in 'query' checks were computed to further enhance the integrity of the data. Once all data were entered, a random twenty percent (25 cases) were re-entered as a further quality check. As a final check frequency tables were tabulated and bar graphs plotted for all variables and studied for extraneous responses. Any outliers and spurious data entries were re-checked against original paper copies. Where potential errors could not be verified and where there were no follow-up procedures available data were recoded as missing. Before analyses commenced, all data variables were manipulated and recoded into meaningful categories or groupings for analysis.

4.14 Practicalities

4.14.1 Consent Rates

The consent rate at the first MSU site, Cane Hill was lower than expected, with only 14 out of 23 (61%) patients agreeing to participate and subsequently completing the interview. In order to reach the sample size recommended by the power calculation, and recognising that

the face-to-face interview with each participant was taking approximately 90 minutes, it was decided that eligible patients on the remaining two MSUs would be offered a nominal payment of £5.00 for their time. This was approved at a local level by the relevant Research Ethics Committees. This small payment would also act as recognition of any inconvenience that may have been caused to them (for example by missing activities due to being interviewed), and for their 'expert opinions' that were being sought with respect to the research study objectives.

4.14.2 Time Taken to Complete a Case

The time taken to complete an instrument pack, enter the data for one patient, and collect all relevant data was between four and six hours. This included face-to-face interviews with each participant (prisoner or patient), case note searches, and interviews with appropriate staff members.

4.15 Methods of Data Analysis

Data were transferred from Microsoft Access into SPSS (version 11.0, 2002) files for initial data manipulation, descriptive statistics and univariate analyses. Subsequent analyses involving bivariate and multivariate modelling were carried out in STATA (version 8.0, 2002).

The first stage of the analysis was to produce simple descriptive statistics characterising the two samples. Frequencies and percentages were reported for categorical data while mean, standard deviation, range and median scores are reported for continuous data. Histograms were plotted for all continuous data to gauge how normally distributed the data were.

Univariate analyses were then conducted to describe differences between the two groups with respect to individual variables, and to compare those who consented with those who declined to participate. Categorical variables were compared using the Crosstabs function in SPSS. Where individual cells in the tables generated contained less than five prisoners or MSU inpatients the Fishers Exact Test statistic was reported as a more conservative estimate than the Chi Square Test statistic. Continuous variables were compared using independent t-tests, or where continuous data were skewed, the non-parametric Mann Whitney U Test. Differences were described as significant using the default of p=0.05 or less, while significance levels between 0.1 and 0.05 were described as non-significant trends.

Variables for which there were univariately significant differences between the groups were reanalysed and converted into odds ratios for further analyses and to give an indication of the magnitude of effect of single and multiple variables (or risk factors). Categorical risk factors with multiple categories were recoded into dichotomous variables where possible and practical in order to create models that are more parsimonious.

Bivariate, stratified analyses were then conducted to control for individual level characteristics in relation to common confounding factors. Multivariate analyses were conducted using logistic regression to compare characteristics of prisoners and MSU inpatients on outcomes of interest, while automatically controlling for confounding and effect modifiers. All univariately significant variables were included along with other potentially discriminating but non-significant, risk factors on an *a priori* basis.

Full logistic and forward stepwise logistic regression models were developed and compared. For the full logistic regression model, all risk factors were entered together. For the forward stepwise logistic regression, individual variables were entered one-by-one into the model starting with an empty model. Variables were included in the stepwise procedure according to standard defaults, i.e., entered when $p<0.05$ and removed when $p>0.10$.

The predictive accuracy of the resultant models were assessed and described in terms of sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), total percent correct, and the Area Under the Receiver Operating Characteristic Curve (AUC) statistic (e.g., Altman, 1995). The goodness of fit of selected models was also reported using the Hosmer Lemeshow test (Agresti, 1996) as relevant as an indication of robustness.

Chapter 5: Results: The sample

This chapter describes the characteristics of the HCC prisoners and MSU inpatient groups in relation to their psychiatric and forensic history, clinical diagnoses, symptoms and levels of functioning, self-harm and suicide, physical health, individual needs, satisfaction with services, placement (transfer) needs, and drug and alcohol use. Findings are presented in relation to the two groups and readers are guided to data tables as appropriate.

5.1 General characteristics

HCC Prisoners (Table 1)

The total combined healthcare inpatient sample in the two prisons on the census dates totalled seventy-five (75) prisoners. Eleven of these were excluded because they did not meet the inclusion criteria. Of these 11, 7 did not have sufficient command of the English language to complete the interview, and 4 were too mentally unwell to give informed consent. The eligible sample therefore constituted 64 HCC prisoners. Of these 9 declined to be interviewed and 2 were transferred out before they could be interviewed, leaving a sample of 53 HCC prisoners who were interviewed, 28 (53%) from HMP Belmarsh and 25 (47%) from HMP Brixton. The overall consent rate for the HCC prisoners was 83%.

The average age of the sample was 37 years old (SD 10.86) and average duration of imprisonment was 137 days, although there were wide variations in length of stay (SD 365.84), with 44 (83%) having been in prison for less than 6 months. Only a small minority were married (8%), but 21% were divorced or separated. Based on self-report, 68% described their ethnicity as white and a 21% described their ethnicity as Black Caribbean. A quarter of the total sample were born outside the United Kingdom, over half

of which (7, 54%) were born in the Caribbean, with the others born in Ireland (n=2) and African countries (n=2).

Medium Secure Unit (MSU) Inpatient Group (Table 1)

The total inpatient sample in the three inpatient MSUs on the census dates totalled 103 patients. Eleven patients were excluded because they did not meet the inclusion criteria. Of these 11, 7 were too ill to give informed consent, 1 did not have sufficient command of the English language to complete the interview, 1 was excluded as he had been included in the prison sample, and 2 were on trial leave. The eligible sample therefore constituted 92 patients. Of these, 22 patients declined interview and 3 were transferred out of the units before they could be seen, leaving a sample of 67 patients who were interviewed. Nineteen (28%) were resident in the Denis Hill Unit, 14 (21%) in Cane Hill, and 34 (51%) in the Bracton Centre. The overall consent rate for the MSU inpatient group was 73%.

The average age of the MSU inpatients was 36 years old (SD 11.00) and the average duration of patients' current placement was 692 days (SD 701.30). Sixteen (24%) had been in the MSU for 6 months or less. The vast majority were single (59, 88%). A third (23, 34%) described their ethnicity as white, and just under half were of Black Caribbean or Black Other ethnicity. A third of the sample reported having been born outside the United Kingdom, most commonly in the Caribbean (9, 39%) or African countries (8, 35%), and two (9%) originated from the United States.

There were no significant differences between the two groups with respect to age, marital status, previous living circumstances and previous employment status immediately before their current detention. However there were non-significant trends suggesting that the HCC

prisoners were more likely to be divorced or separated, while the MSU inpatients were more likely to have been living with their family or been in housing association accommodation prior to detention.

The MSU inpatients had a significantly longer length of stay on average than the HCC prisoners. Of particular note, there were clear differences in ethnic backgrounds, with a significant over-representation of non-white ethnic groups in the MSU populations as compared to the HCC prisoners. Stratified analyses revealed that this apparent over-representation was not explained by diagnosis, source of admission, or Mental Health Act 1983 section (See **Section 5.13**).

Table 1: General characteristics of sample

Sociodemographic characteristics	HCC Prisoners (n=53)	MSU Inpatients (n=67)	p[1]
Age			
Mean	37.06	35.70	
Median	37.00	33.00	p=0.502
SD	10.86	11.00	
Range	20 – 62	19 - 66	
Length of stay (days)			
Mean	137.40	691.69	
Median	40.00	390.00	p<0.001
SD	365.84	701.33	
Range	4 – 2555	12 - 3285	
Ethnicity			
White	36 (68%)	23 (34%)	
Black Caribbean	10 (19%)	20 (30%)	
Black Other	4 (8%)	11 (16%)	p =0.009
Mixed race	2 (4%)	6 (9%)	
Asian	1 (2%)	2 (3%)	
Other	-	5 (8%)	
Marital Status			
Single	38 (72%)	59 (88%)	
Married	4 (8%)	3 (5%)	p=0.068
Divorced/separated	11 (21%)	5 (8%)	
Living circumstances			
Council/Housing Association	13 (25%)	25 (37%)	
Hostel	9 (17%)	17 (25%)	p=0.077
With family	7 (13%)	15 (24%)	
Private rented	8 (15I%)	3 (5%)	
Roofless	4 (8%)	1 (2%)	
Employment status			
On sickness benefits	19 (36%)	34 (51%)	
Paid employment	11 (21%)	14 (21%)	p=0.146
Unemployed/seeking work	17 (32%)	12 (18%)	
Other	6 (11%)	7 (11%)	

Percentages reported to nearest whole number, p values reported to 3 decimal places. [1]Independent t-tests used for continuous data and Crosstabs used for categorical data reporting Chi Square statistic, or Fishers Exact Test where individual cells contained less than 5 participants.

5.2 Psychiatric history (Table 2)

The vast majority of the HCC prisoners (50, 94%) were not detained under provisions of the Mental Health Act 1983. Only 3 (6%) were subject to a section of the Mental Health Act 1983 and therefore in the process of being transferred to psychiatric services for assessment and/or treatment. As would be expected, all of the MSU group were detained under the Mental Health Act 1983. Two thirds (44, 66%) were detained under restriction orders and a small proportion (11, 16%) were on civil sections.

Both groups reported complex psychiatric histories, with HCC prisoners and MSU inpatients reporting an average of 3 and 4 previous psychiatric admissions respectively. The groups differed with respect to the types of psychiatric services they had previously been admitted to (χ^2=12.15, p=0.015). The MSU inpatients had substantially more admissions to psychiatric intensive care units (PICU) and other MSUs than the HCC prisoners. Also double the number of the MSU inpatients had previously been in high security psychiatric hospitals. These differences would generally be expected and are perhaps reflective of the significant differences in terms of the source of admission (χ^2=66.68, p<0.001), in particular that a quarter (16, 24%) of the MSU inpatients had been transferred to their current placement from other MSUs, over a third from prison and 8 (12%) from high secure psychiatric hospitals. See **Table 2** for further details.

Table 2: Psychiatric history

Psychiatric history	HCC Prisoners (n=53)	MSU inpatients (n=67)	Total[1] (n=120)
Current Section MHA 1983			
Informal	50 (94%)	-	
Section 3	1 (2%)	11 (16%)	
Section 37 (inc. Notional)	-	10 (15%)	p<0.001
Section 37/41	1 (2%)	34 (51%)	
Section 47/49	-	7 (10%)	
Section 48/49	1 (2%)	3 (5%)	
Other	-	2 (3%)	
Number of previous psychiatric admissions			
Mean	3.42	4.00	
Median	1.00	2.00	p=0.618
SD	8.11	4.54	
Range	0 – 50	0 - 20	
Previous psychiatric admissions			
General Psychiatric Unit	17 (32%)	22 (33%)	
PICU	2 (4%)	17 (25%)	
Low Secure Unit	10 (19%)	18 (27%)	p=0.015
Medium Secure Unit	8 (15%)	42 (63%)	
High Secure Unit	5 (9%)	11 (16%)	
Source of admission			
High Security	-	8 (12%)	
Medium Security	-	16 (24%)	
Low Security	-	2 (3%)	
From the community	-	6 (9%)	p<0.001
Prison	14 (26%)	26 (39%)	
Court	34 (64%)	1 (2%)	
Other	5 (9%)	8 (12%)	

Percentages reported to nearest whole number, p values reported to 3 decimal places. [1] Independent t-tests used for continuous data and Crosstabs used for categorical data reporting Chi Square statistic, or Fishers Exact Test where individual cells contained less than 5 participants.

5.3 Forensic History (Table 3)

At the time of interview, most (66%) of the HCC prisoners were on remand, and 26% were sentenced. By contrast, over half (56%) of the MSU inpatients had been sentenced (and mainly given a hospital disposal), whilst the vast majority of the rest had not been admitted

via the judicial system. Three (4%) of the MSU inpatients were serving life sentences and had been transferred to the MSU for assessment and/or treatment.

There was a non-significant trend suggesting that the HCC prisoners had been in prison more times than the MSU inpatients but a graphical plot of the number of detentions revealed a substantial positive skew, with a small number of sample increasing the average number of admissions (as also indicated by the difference between the mean and median number of previous detentions). The non-parametric Mann Whitney U test suggested no significant differences between the groups (Mann Whitney U=1773.50, p=0.991).

Both groups described a similar profile of previous convictions, with more than a quarter of each group having previous convictions for violent offences, property offences, and acquisitive crimes. Other types of offences were also common in both groups, especially drug offences and driving offences. However, the HCC prisoners were significantly more likely to have previous convictions compared to the MSU inpatients ($\chi 2 = 4.089$, p=0.043).

If just violent offences (but excluding those with an index offence included in the homicide category) were considered MSU inpatients were significantly more likely to have committed a violent index offence than HCC prisoners ($\chi 2 = 5.268$, p=0.020). However, in an overall sense there were no significant differences between HCC prisoners and MSU inpatients with respect to their index offences or previous offences. Forty-nine percent (n=33) of the MSU inpatients had committed a violent index offence (including homicide categories). Of these 33 just under half had been transferred to their current MSU placement from prison and another fifth from high security hospitals. There were also no significant differences between the HCC prisoners and MSU inpatients if the index

offences were split into serious (including homicide, violence, sexual offences and arson) or non-serious offences ($\chi 2$ = 0.047, p=0.829) with just under two thirds of the HCC prisoners (33, 62%) and MSU inpatients (43, 64%) recorded with such offences. See **Table 3.**

Table 3: Forensic history

Forensic factors	HCC Prisoners (n=53)	MSU Inpatients (n=67)	Total[3] (n=120)
Number of previous prison detentions			
Mean	5.66	3.76	
Median	3.00	2.00	p=0.991
SD	7.60	4.58	
Range	0 – 30	0 - 32	
Previous convictions categories[1]			
Homicide	2 (4%)	1 (2%)	
Violence	17 (32%)	29 (43%)	
Sexual Offences	6 (12%)	8 (12%)	
Arson	2 (4%)	5 (8%)	p=0.486
Property	15 (28%)	24 (36%)	
Acquisitive	19 (36%)	22 (33%)	
Other	20 (38%)	21 (31%)	
None	15 (28%)	9 (13%)	
Sentence status at time of interview			
Remand	35 (66%)	5 (7%)	
Sentenced	14 (26%)	35 (52%)	p<0.001
Lifers	1 (2%)	3 (4%)	
Other	3 (6%)	24 (36%)	
Index Offence categories[2]			
Homicide (inc. murder, manslaughter, attempted murder)	15 (28%)	9 (13%)	
Violence (inc. GBH, ABH, wounding, affray, assault)	9 (17%)	24 (36%)	
Sexual Offences (inc. rape, indecent assault, sexual assault)	7 (13%)	5 (7%)	
Arson (inc. recklessness, with intent)	2 (4%)	5 (7%)	p=0.107
Property (inc. burglary, damage to property, crim. damage)	3 (6%)	2 (4%)	
Acquisitive (inc. theft, shoplifting)	7 (13%)	8 (12%)	
Other (inc. TDA, drug offences, recall/breach of licence)	9 (17%)	8 (12%)	
None	-	4 (6%)	
Missing	1 (2%)	2 (3%)	

Percentages reported to nearest whole number, p values reported to 3 decimal places [1]Previous conviction categories are not mutually exclusive, i.e., prisoners/patients could have more than one type of previous conviction. [2]Where more than one index offence was reported the most serious offence is shown. [3] Crosstabs were used for categorical data reporting Chi Square statistic, or Fishers Exact Test where individual cells contained less than 5 participants. As continuous data were skewed the Mann Whitney U test statistic was reported.

5.4 Diagnosis (Tables 4 – 6)

Primary Diagnosis

Primary diagnoses, according to ICD-10 disorder classifications (WHO, 1992), and up to four additional diagnoses were recorded for each participant. Consultant Psychiatrists were specifically prompted about diagnoses of co-morbid personality disorders and/or substance misuse disorders (predominantly harmful use or dependence).

More than three quarters (78%) of the MSU inpatients had a primary ICD-10 category diagnosis of schizophrenia, schizotypal disorder or delusional disorder. The most common diagnosis (67%) was paranoid schizophrenia.

The commonest diagnosis among HCC prisoners was schizophrenia but this group were more heterogeneous, with one in five attracting a primary diagnosis of personality disorder and one in six a mood affective disorder. Two of the HCC prisoners were classified as mentally ill (therefore meeting inclusion criteria) but were still under assessment so no definite diagnoses were available at the time of assessment. See **Table 4** for more details.

Table 4: Primary ICD-10 diagnosis

Primary diagnosis	HCC Prisoners (n=53)	MSU Inpatients (n=67)
F00 – F09 Organic, inc. symptomatic, mental disorders		
Organic personality disorder	1 (2%)	1 (1%)
F10-F19 Mental and behavioural disorders due to psychoactive substance use		
Alcohol dependence	2 (4%)	-
Polysubstance misuse	-	1 (1%)
Opioid dependence	1 (2%)	-
F20-F29 Schizophrenia, schizotypal and delusional disorder		
Paranoid schizophrenia	20 (38%)	45 (67%)
Persistent delusional disorder	-	1 (1%)
Schizoaffective disorder	2 (4%)	5 (7%)
Schizophrenia with depressive episode	-	1 (2%)
Acute psychotic episode	-	1 (1%)
Residual schizophrenia	1 (2%)	-
F30-39 Mood Affective disorders		
Bipolar Affective disorder	2 (4%)	1 (1%)
Severe depressive episode with psychotic symptoms	1 (2%)	1 (1%)
Mild depressive disorder	3 (6%)	-
Mania with psychotic symptoms	2 (4%)	-
F40-F48 Neurotic, stress-related and somatoform disorders		
Mixed anxiety and depressive disorder	-	1 (1%)
Adjustment disorder	3 (6%)	-
Hypochondriacal disorder	1 (2%)	-
F60-F69 Disorders of adult personality and behaviour		
Borderline personality disorder	4 (8%)	4 (6%)
Dependent personality disorder	2 (4%)	-
Dissocial personality disorder	2 (4%)	1 (1%)
Paranoid personality disorder	1 (2%)	2 (3%)
Mixed personality disorder	-	1 (1%)
Munchhausen's Disorder	1 (2%)	-
F70-F79 Mental retardation		
Mild mental retardation	2 (4%)	-
F80-F89 Disorders of psychological development		
Aspergers syndrome	-	1 (2%)
F99 Mental disorder not otherwise stated		
Still under assessment	2 (4%)	-

Percentages reported to nearest whole number

Secondary diagnoses

Forty-two percent (n=22) of the prisoners and 68% (n=46) of the MSU inpatients had a second ICD-10 diagnosis (**Table 5**). Two-thirds of these 46 MSU inpatients were given a co-morbid substance misuse diagnosis, most commonly harmful use of cannabis. By contrast over half (12, 55%) of the 22 HCC prisoners were given a diagnosis of co-morbid personality disorder, most commonly dissocial personality disorder, and a smaller (yet still relatively large) number (7, 32%) had co-morbid substance misuse diagnoses.

Table 5: Secondary ICD-10 diagnosis

First subsidiary diagnosis	HCC Prisoners (n=22)	MSU Inpatients (n=46)
F00 – F09 Organic, inc. symptomatic, mental disorders		
Organic personality disorder	-	1 (2%)
Early onset dementia	-	1 (2%)
F10-F19 Mental and behavioural disorders due to psychoactive substance use		
Harmful use of alcohol	-	3 (7%)
Harmful use of cannabis	1 (5%)	17 (37%)
Harmful use of crack	-	2 (4%)
Harmful use of cocaine	2 (9%)	-
Harmful use of multiple substances	2 (9%)	5 (11%)
Alcohol dependence	1 (5%)	-
Crack dependence	-	1 (2%)
Opioid dependence	1 (5%)	-
Multiple substance dependence	-	3 (7%)
F20-F29 Schizophrenia, schizotypal and delusional disorder		
Chronic schizophrenia	-	1 (2%)
Paranoid schizophrenia	-	3 (7%)
F30-39 Mood Affective disorders		
Recurrent depressive disorder	-	1 (2%)
F40-F48 Neurotic, stress-related and somatoform disorders		
Mixed anxiety and depressive disorder	1 (5%)	-
Generalised anxiety disorder	1 (5%)	-
Post traumatic stress disorder	1 (5%)	-
F60-F69 Disorders of adult personality and behaviour		
Borderline personality disorder	1 (5%)	1 (2%)
Dependent personality disorder	2 (9%)	-
Dissocial personality disorder	7 (32%)	3 (7%)
Avoidant personality disorder	1 (5%)	-
Schizoid personality disorder	1 (5%)	
Paedophilia	-	1 (2%)
F70-F79 Mental retardation		
Mild mental retardation	-	3 (7%)

Percentages reported to nearest whole number

Additional diagnoses

Six (11%) of the HCC prisoners and 22 (33%) of the MSU inpatients had a third ICD-10 diagnosis. Thirteen (59%) of these 22 MSU inpatients had additional substance misuse diagnoses, predominantly harmful use of cannabis or alcohol. See **Table 6** for more details.

Table 6: Additional ICD-10 diagnoses

Second subsidiary diagnosis	HCC Prisoners (n=6)	MSU Inpatients (n=22)
F00 – F09 Organic, inc. symptomatic, mental disorders		
Organic personality disorder	-	1 (5%)
F10-F19 Mental and behavioural disorders due to psychoactive substance use		
Harmful use of alcohol	1 (17%)	3 (14%)
Harmful use of cannabis	1 (17%)	4 (18%)
Harmful use of crack	-	2 (9%)
Harmful use of stimulants	-	1 (5%)
Alcohol dependence	-	1 (5%)
Cocaine dependence	1 (17%)	-
Multiple substance dependence	-	1 (5%)
Alcohol and drug induced psychosis	-	1 (5%)
F20-F29 Schizophrenia, schizotypal and delusional disorder		
Paranoid schizophrenia	-	1 (5%)
Schizoaffective disorder	1 (17%)	-
Fixed delusions	-	1 (5%)
F30-39 Mood Affective disorders		
Recurrent depressive disorder	-	1 (5%)
F60-F69 Disorders of adult personality and behaviour		
Borderline personality disorder	1 (17%)	-
Dependent personality disorder	1 (17%)	-
Paranoid personality disorder	-	2 (9%)
F70-F79 Mental retardation		
Mild mental retardation	-	3 (14%)

Percentages reported to nearest whole number

One HCC prisoner had a fourth diagnosis of harmful use of stimulants, and 6 (9%) of the MSU inpatients had a fourth diagnosis, including dissocial personality disorder; narcissistic personality disorder; harmful use of cannabis; harmful use of stimulants and hallucinoids; multiple substance misuse; and post traumatic stress disorder.

When the overall prevalence rates were considered significantly fewer of the HCC prisoners than the MSU inpatients were diagnosed with a psychotic disorder, with 26, (49%) of the HCC prisoners and 56 (84%) of the MSU inpatients attracting this diagnosis (χ^2 16.301, $p<0.001$).

Although a personality disorder diagnosis was more common in HCC prisoners than MSU inpatients, with a third of HCC prisoners (17, 32%) versus a quarter of MSU inpatients (16, 24%) attracting such a diagnosis, these differences did not reach significance ($p=0.318$).

Significantly fewer of the prisoners had a substance misuse diagnosis as compared to the MSU inpatients, with one in five of the prisoners (11, 21%) as compared to over half of the MSU inpatients (37, 55%) being classified with one of these diagnoses (χ^2 14.649, $p<0.001$). MSU inpatients of non-white ethnicity were significantly more likely to have a substance misuse diagnosis than those who were of white ethnicity ($\chi2 = 9.377$, $p=0.002$).

It is noteworthy that the prevalence rates for both personality disorder and substance misuse are considerably lower that those reported in previous studies and are likely to be under-diagnosed in these samples. This will be discussed further in **Chapter 8.**

History of drug and alcohol misuse (Table 7)

Lifetime histories of substance misuse (both drugs and alcohol) were recorded from case notes. It should be noted that the quality of these data might be limited according to the accuracy and completeness of medical records available on individual participants. Self-report indicators of alcohol and drug use are discussed in **Sections 5.11** and **5.12** respectively and should be cross-referenced with these figures.

While similar proportions (approximately a third) of the HCC prisoners and the MSU inpatients had histories of alcohol misuse, significantly more (79% versus 59%) of the MSU inpatients had a lifetime history of drug misuse. See **Table 7** for more details. For the MSU inpatients, there was a strong association between having a past history of substance misuse and currently having a substance misuse diagnosis (χ^2 = 11.995, p=0.001).

Table 7: Case Note History of Drug or Alcohol Misuse

Substance misuse	HCC Prisoners (n=53)	MSU Inpatients (n=67)	p[1]
Lifetime history of drug misuse			
Yes	31 (59%)	53 (79%)	p=0.014
No	22 (41%)	14 (21%)	
Lifetime history of alcohol misuse			
Yes	17 (32%)	21 (31%)	p=0.932
No	36 (68%)	46 (69%)	

Percentages reported to nearest whole number, p values reported to 3 decimal places. [1]Crosstabs used for categorical data reporting Chi Square statistic.

5.5 Symptomatology and levels of functioning (Table 8 - 9)

Symptomatology (Table 8)

Levels of psychopathology, according to the Comprehensive Psychiatric Rating Scale (CPRS, Åsberg *et al*, 1978) are shown in **Table 8**. CPRS scores were based on a

condensed scoring scale. A plot of total scores for the prisoners and MSU inpatients revealed a normal distribution, as also evident by the mean and median total scores.

Table 8: Total CPRS scores

Total CPRS score	HCC Prisoners (n=39)[1]	MSU Inpatients (n=52)[2]	p[3]
Mean	61.85	46.31	p=0.015
Median	64	46	
SD	29.29	29.52	
Range	8 - 116	4 - 144	

Continuous data reported to 2 decimal places, p values reported to 3 decimal places. [1]Incomplete data for 14 prisoners. [2]Incomplete data for 15 MSU inpatients. [3]Independent t-test statistic reported.

The HCC prisoners had significantly higher total CPRS scores than the MSU inpatients (p=0.015). This was explained by considering the Montgomery & Asberg Depression Rating Scale (MADRS) – a sub-scale of the CPRS. These scores were positively skewed with lower scores being more common than higher scores. Due to this skew groups were compared using the Mann-Whitney U Test. HCC prisoners reported significantly higher levels of depression (mean score 19.06, median 16, SD 14.12) compared to MSU inpatients (mean score 6.62, median 4, SD 6.66) (U=545.50, p<0.001). According to normative scores from the Åsberg paper (1978), the HCC prisoners were mildly to moderately depressed, with just under half of the group scoring 20 or more on the scale, in contrast to just 3 of the MSU inpatient group being rated as moderately depressed.

Levels of Functioning (Table 9)

Severity of symptoms and levels of disability according to the GAF (Luborsky, 1962; DSM III-R, APA, 1987) were only available for the MSU inpatient group (See **Table 9**). These data were not available for the HCC prisoners, as the prison staff reported not

feeling confident enough to complete GAF ratings due to insufficient knowledge about individual prisoners, partly because of their short length of stay.

Higher median scores than the mean scores for ratings of both symptoms and disability are reflective of a negatively skewed distribution. Three quarters of the MSU inpatients scored over 55 on symptoms, with a quarter scoring over 82. Similarly 78% scored 56 or higher on the disability scale with a quarter scoring over 84, thus reflecting an inpatient sample with high levels of functioning and generally well controlled symptoms.

Table 9: Symptoms and Disability scores from GAF for MSU inpatients

GAF Symptoms and Disability scores	HCC Prisoners (n=0)[1]	MSU Inpatients (n=64)[2]	p
Symptoms			
Mean	-	67.02	
Median	-	70	-
SD	-	20.57	
Range	-	8 - 90	
Disability			
Mean	-	70.89	
Median	-	75	-
SD	-	15.10	
Range	-	32 - 90	

Continuous data reported to 2 decimal places. [1]Data not available for any of the HCC prisoners. [2]Data missing for 4 MSU inpatients.

5.6 Self-harm and suicidal ideation (Tables 10 – 12)

History of self-harm (Table 10)

Twenty-nine (60%) of the HCC prisoners reported attempting suicide at some point in the past. Significantly fewer MSU inpatients reported a previous suicide attempt, although 41% represents a substantial proportion of the MSU inpatient sample. Five of the HCC prisoners and one MSU inpatient refused to answer this question.

Table 10: History of suicide attempts

History of suicide attempts	HCC Prisoners (n=48)[1]	MSU Inpatients (n=66)[2]	p[1]
Ever attempted suicide before			
Yes	29 (60%)	27 (41%)	p=0.040
No	19 (40%)	39 (59%)	

Valid percentages reported to nearest whole number. [1]5 cases missing, [2]1 case missing. [1]Crosstabs used for categorical data reporting Chi Square statistic.

Current thoughts of self-harm (Tables 11 - 12)

Medical records were checked to ascertain HCC prisoners and MSU inpatients on specific levels of observation due to being a current risk of self-harm and/or suicide. More than a third of the HCC prisoners (20, 38%) were on close level observations specifically due to current risks they posed to themselves of self-harming, making a suicide attempt, or because they had recently made a suicide attempt. Five (8%) of the MSU inpatients were also on close level observations.

Results from Beck's Scale for Suicidal Ideation (BSS) (Beck, Kovacs & Weissman, 1979) showed that the HCC prisoners reported a significantly weaker wish to live; a higher wish to die; and stronger desire to kill themselves than the MSU inpatients. They were also significantly more likely to report that they had more reasons to die than to continue living, and that they would be more likely to take a chance on life or death or would not take the necessary steps to save themselves if they found themselves in a life threatening situation.

Table 11: Screening questions for current suicidal intent

Section 1: suicidal ideation screening questions	HCC Prisoners (n=49)[1]	MSU Inpatients (n=66)[2]	p[3]
Strength of wish to live			
Moderate to strong	33 (67%)	63 (95%)	
Low	6 (12%)	3 (5%)	p<0.001
No wish	10 (20%)	-	
Strength of wish to die			
No wish	31 (63%)	60 (91%)	
Low	1 (2%)	3 (5%)	p<0.001
Moderate to high	17 (35%)	3 (5%)	
Reasons for living or dying			
More reasons to live than to die	32 (65%)	62 (94%)	
Equal reasons for living or dying	4 (8%)	3 (5%)	p<0.001
More reasons to die than to live	13 (27%)	1 (2%)	
Desire to kill self			
No desire	32 (65%)	61 (92%)	
Weak desire	1 (2%)	3 (5%)	p<0.001
Moderate to strong desire	16 (33%)	2 (3%)	
Life-threatening situation			
Would try to save my life	35 (71%)	63 (95%)	
Would take a chance on life or death	4 (8%)	1 (2%)	p=0.002
Would not take steps to save life	10 (20%)	2 (3%)	
Screen positive for suicidal ideation			
Positive	21 (40%)	6 (9%)	p<0.001

Percentages reported to nearest whole number, p values to 3 decimal places. [1]4 cases missing, [2]1 case missing. [3] Independent t-tests used for continuous data and Crosstabs used for categorical data reporting Chi Square statistic, or Fishers Exact Test where individual cells contained less than 5 participants.

There were differences between those who were on specific levels of observation for self-harm/suicide and those who screened positive on the BSS. Twenty-one percent of the HCC prisoners not on close level observations screened positive for current suicidal ideation on the BSS. By contrast only 2 of the 6 MSU inpatients on close observations for these risks 'screened positive' on the BSS.

Total BSS scores were positively skewed, but HCC prisoners scored significantly higher total BSS scores than the MSU inpatients (U=1071.00, p<0.001) (**Table 12**).

Table 12: Total BSS scores

Total BSS score	HCC Prisoners (n=48)	MSU Inpatients (n=64)	p[1]
Mean	6.89	1.40	
SD	10.70	5.08	
Median	0	0	p<0.001
Minimum	0	0	
Maximum	31	24	

Continuous data reported to 2 decimal places, p values to 3 decimal places. [1]Mann Whitney U test statistic.

5.7 Physical Health (Table 13)

HCC prisoners were significantly more likely than the MSU inpatients to report current physical health problems (χ^2 4.09, p=0.043), with 32 (60%) of the HCC prisoners and 28 (42%) of the MSU group reporting current problems. HCC prisoners reported up to six separate physical health problems but MSU inpatients reported less than three.

Significantly more HCC prisoners reported physical health problems related to locomotor and respiratory problems, with over a third (37%) reporting limitations with mobility, mainly arising from previous injuries, and a quarter reporting asthma or bronchitis and therefore requiring regular medication. Furthermore, a fifth (10, 20%) of the HCC prisoners reported problems related to gastrointestinal (and related) problems.

The most commonly occurring physical health problems for the MSU inpatients were high blood pressure (6, 9%), diabetes (7, 10%), and injury-based mobility problems (7, 10%).

Differences in reporting and treatment of physical health problems are suggested and discussed in Chapter 6 when service contacts in the different services are considered.

Table 13: Current physical health problems reported

Physical Health Areas	HCC Prisoners (n=53)	MSU Inpatients (n=67)	p[1]
Cardiovascular			
Ischaemic Heart Disease	-	1 (1%)	
Angina	1 (2%)	-	p=0.753
High Blood Pressure	2 (4%)	6 (9%)	
Heart Murmur	1 (2%)	-	
Respiratory			
Asthma	9 (17%)	5 (7%)	
Bronchitis	3 (6%)	-	p=0.009
Tuberculosis	1 (2%)	-	
Gastro-intestinal tract and related			
Dentist	4 (8%)	3 (4%)	
Irritable Bowel Syndrome	2 (4%)	1 (1%)	p=0.418
Kidney/Gallstones	1 (2%)	-	
Other	3 (6%)	5 (7%)	
Urogenital system			
Urinary Tract Infections	1 (2%)	1 (1%)	
Sexually Transmitted Diseases	1 (2%)	-	p=0.654
Other (testicular problem)	1 (2%)	1 (1%)	
Locomotor system			
Arthritis	1 (2%)	-	
Rheumatism	2 (4%)	-	
Injury Based	13 (25%)	7 (10%)	p=0.002
Congenital injuries	2 (4%)	-	
Other	1 (2%)	1 (1%)	
Central Nervous System			
Epilepsy	3 (6%)	1 (1%)	
Stroke	-	1 (1%)	p=0.404
Tremor	1 (2%)	-	
Endocrine/Metabolic System			
Dermatological Problems	1 (2%)	1 (1%)	
Cirrhosis	1 (2%)	-	p=0.112
Diabetes	2 (4%)	7 (10%)	
High Cholesterol	-	4 (6%)	
Other			
Eyesight problems	2 (4%)	3 (4%)	p=1.000
Hearing problems	1 (2%)	-	

Percentages reported to nearest whole number, p values to 3 decimal places. [1]Chi Square tests of association used for categorical data, reporting Fishers Exact Test where individual cells contained less than 5 participants.

5.8 Individual Needs (Tables 14 – 17)

Participants were asked if they were experiencing current difficulties in any of 25 need domains included in the Camberwell Assessment of Need Forensic Short Version (CANFOR-S) (Thomas *et al*, 2003).

HCC Prisoner/MSU inpatient view of their needs (Tables 14 – 15)

The HCC prisoners reported an average of 7 needs overall (SD 3.16) although individual reports varied between having only 1 need up to reporting 14 different needs. They reported that roughly three quarters of their needs were unmet (i.e., that they remained a problem in spite of any interventions offered or provided).

A similar number of needs overall were reported by the MSU inpatients. However, HCC prisoners reported significantly more unmet needs than the MSU inpatients. Just over half (54%) of the needs identified by the MSU inpatients were considered to be met by current service or informal interventions.

Table 14: Summary of total needs and unmet needs according to CANFOR

Total needs	**HCC Prisoners (n=53)**	**MSU Inpatients (n=67)**	**p[1]**
Mean	7.32	7.36	
SD	3.16	2.62	
Median	7	7	p=0.944
Minimum	1	3	
Maximum	14	14	
Unmet needs			
Mean	5.15	3.40	
SD	3.47	2.73	
Median	4	3	p=0.002
Minimum	0	0	
Maximum	14	11	

Percentages reported to nearest whole number, p values reported to 3 decimal places, other continuous data reported to 2 decimal places. [1]Independent t-tests used for comparison of continuous data.

Profile of HCC prisoners' needs (Table 15)

More than half of the HCC prisoners reported having needs with respect to food, daytime activities, psychological distress, physical health, and information about condition and treatment. More than a quarter reported their needs to be unmet (i.e., representing ongoing problems) with respect to daytime activities, psychological distress, food, psychotic symptoms, self-harm and violence.

The proportions of those reporting needs in the areas of self-care, violence, company, intimate relationships, sexual expression and arson were smaller than other need domains. However all of those reporting needs in these domains considered them to be unmet (or ongoing problems) despite any service (or other) interventions.

Profile of MSU inpatients' needs (Table 15)

The MSU inpatients most commonly reported having needs with respect to daytime activities, food, physical health, and psychotic symptoms, with more than half of them reporting difficulties in these need domains. More than a quarter reported their needs to be unmet with respect to daytime activities, accommodation, information about condition and treatment, and psychological distress. Although smaller proportions of the MSU inpatients reported problems with intimate relationships, sexual expression, self care, benefits and using the telephone at least three quarters of those reporting these needs considered them unmet despite any current interventions.

In relation to physical health related needs summarised here and described above (**Section 5.7**) there was a significant positive correlation between reporting an unmet need in the physical health domain of CANFOR and having reporting physical health problems ($r = 0.236$, $p=0.009$). This shows that these self-report measures are eliciting responses that are consistent with each other.

Table 15: Frequency of needs and unmet needs according to CANFOR (HCC prisoner/MSU inpatient view)

CANFOR Need Domain	HCC Prisoners (n=53)		MSU Inpatients (n=67)	
	Number With Need (%)	Number Unmet (%)	Number With Need (%)	Number Unmet (%)
Accommodation	18 (34)	10 (19)	32 (48)	22 (33)
Food	53 (100)	19 (36)	53 (79)	14 (21)
Looking after the Living Environment	3 (6)	1 (2)	7 (10)	3 (5)
Self Care	8 (15)	8 (15)	1 (1)	1 (1)
Daytime Activities	38 (72)	36 (68)	55 (82)	26 (39)
Physical Health	30 (57)	12 (23)	50 (75)	16 (24)
Psychotic Symptoms	20 (38)	17 (32)	48 (72)	10 (15)
Information about Condition and Treatment	28 (53)	24 (45)	29 (43)	20 (30)
Psychological Distress	34 (64)	29 (55)	25 (37)	18 (27)
Safety to Self	22 (42)	15 (28)	3 (4)	2 (3)
Safety to Others	14 (26)	14 (26)	15 (22)	9 (13)
Alcohol	9 (17)	8 (15)	7 (10)	2 (3)
Drugs	11 (21)	9 (17)	23 (34)	12 (18)
Company	10 (19)	10 (19)	4 (6)	1 (1)
Intimate Relationships	6 (11)	6 (11)	9 (13)	9 (13)
Sexual Expression	6 (11)	6 (11)	13 (19)	13 (19)
Childcare	15 (28)	3 (6)	22 (33)	10 (15)
Basic Education	12 (23)	10 (19)	14 (21)	6 (9)
Telephone	10 (19)	9 (17)	4 (6)	3 (5)
Transport	1(2)	0 (-)	8 (12)	5 (7)
Money	12 (23)	11 (21)	25 (37)	12 (18)
Benefits	11 (21)	10 (19)	9 (13)	8 (12)
Treatment	13 (25)	4 (8)	25 (37)	4 (6)
Sexual Offences	3 (6)	1 (2)	5 (7)	0 (-)
Arson	1 (2)	1 (2)	7 (10)	2 (3)

Percentages reported to nearest whole number and relate to the proportion of the total sample

Staff view of HCC prisoner/MSU inpatients needs

Staff views were available for 64 (96%) of the MSU inpatients and 15 (28%) of the HCC prisoners. As with GAF scores prison staff reported not knowing the individual prisoners sufficiently well to be able to complete these questions. Therefore the findings for prisoners should be interpreted with caution. Staff members were either the participant's

Primary Nurse, or a member of staff who knew the participant sufficiently well. Summary statistics of total and unmet need are shown in **Table 16** and the frequencies that each of the 25 CANFOR domains were reported by staff for the HCC prisoners and MSU inpatients are shown in **Table 17**. According to staff perceptions there were no major differences between HCC prisoners and MSU inpatients in relation to the total number of needs or number of unmet needs these individuals had.

Table 16: Staff view of needs and unmet needs according to CANFOR

Total needs	**HCC Prisoners (n=15)**	**MSU Inpatients (n=64)**	**p[1]**
Mean	7.13	7.58	
SD	1.60	2.24	
Median	7	8	p=0.470
Minimum	5	3	
Maximum	11	13	
Unmet needs			
Mean	3.87	3.42	
SD	1.92	2.15	
Median	4	3	p=0.465
Minimum	1	0	
Maximum	7	7	

Percentages reported to nearest whole number, p values reported to 3 decimal places and other continuous data reported to 2 decimal places. [1]Independent t-test statistic reported.

Staff working in the prisons reported that the HCC prisoners had an average of 7 needs out of a possible 25 (SD 1.60), although individual profiles varied between 5 and 11 needs overall. HCC prisoners tended to report more needs overall than the staff thought the prisoners had (7.32 versus 7.13) but these differences did not reach statistical significance (p=0.823). They were also more likely to report that the needs they identified were 'unmet' (so remained a significant problem) than the staff (5.15 versus 3.87) but again these differences did not reach significance (p=0.177).

Staff working in the three MSUs rated the MSU inpatients as having between 3 and 13 needs overall and between 0 and 7 unmet needs. The staff reported inpatients as having slightly more needs than the inpatients reported themselves (7.58 versus 7.36) but this difference was not significant (p=0.564). They also reported the same number of unmet needs as the MSU inpatients reported themselves (3.42 versus 3.40, p=0.963).

Table 17: Frequency of needs and unmet needs according to CANFOR-S (Staff view)

CANFOR Need Domain	HCC Prisoners (n=15)		MSU Inpatients (n=64)	
	Number With Need (%)	Number Unmet (%)	Number With Need (%)	Number Unmet (%)
Accommodation	4 (27)	4 (27)	33 (52)	19 (30)
Food	15 (100)	0	46 (72)	11 (17)
Looking after the Living Environment	1 (7)	1 (7)	14 (22)	6 (9)
Self Care	6 (40)	4 (27)	17 (27)	8 (13)
Daytime Activities	12 (80)	8 (53)	61 (95)	29 (45)
Physical Health	5 (33)	2 (13)	39 (61)	17 (27)
Psychotic Symptoms	6 (40)	3 (20)	52 (81)	16 (25)
Information about Condition and Treatment	7 (47)	0	18 (28)	3 (17)
Psychological Distress	8 (53)	4 (27)	24 (38)	12 (19)
Safety to Self	7 (47)	6 (40)	4 (6)	4 (6)
Safety to Others	7 (47)	6 (40)	4 (6)	2 (3)
Alcohol	5 (33)	5 (33)	10 (16)	8 (13)
Drugs	5 (33)	5 (33)	26 (41)	18 (28)
Company	3 (20)	2 (13)	15 (23)	9 (14)
Intimate Relationships	0	0	11 (17)	10 (16)
Sexual Expression	0	0	9 (14)	9 (14)
Childcare	4 (27)	0	12 (19)	5 (8)
Basic Education	1 (7)	0	18 (28)	9 (14)
Telephone	0	0	0	0
Transport	0	0	9 (14)	1 (2)
Money	0	0	12 (19)	5 (8)
Benefits	0	0	2 (3)	0
Treatment	6 (40)	4 (27)	17 (27)	5 (8)
Sexual Offences	4 (27)	3 (20)	14 (22)	11 (17)
Arson	1 (7)	1 (7)	8 (13)	2 (3)

Percentages reported to nearest whole number and relate to the percentage of the total sample

Comparing staff and patient views of need

HCC prison staff reported that at least half of the prison group had needs in relation to food, daytime activities and psychological distress. Staff also reported that at least one third of the sample had continuing unmet needs for daytime activities, self-harm, violence, alcohol and drugs. While HCC prisoners and staff identified many of the same need areas

as currently being problematic, the prisoners were more likely to identify symptomatic issues as ongoing problems, i.e., psychological distress (feeling anxious, worried or low) and psychotic symptoms (either untreated or still present regardless of pharmacological, or other, interventions). The staff more commonly reported that drug and alcohol misuse remained untreated or still problematic for the prisoners despite their incarceration and irrespective of any detoxification or other interventions that had been applied.

The MSU staff reported that at least half of the MSU inpatients had needs in relation to daytime activities, psychotic symptoms, food, physical health and accommodation. Continuing problems for at least a quarter of the MSU inpatients related to daytime activities, accommodation, drugs, physical health and psychotic symptoms. Similar to the prison group, MSU staff and MSU inpatients agreed on the most common problem areas. Where they differed was that the staff were more likely to identify health and treatment related issues as ongoing problems, such as drug misuse, psychotic symptoms and physical health. By contrast, the MSU inpatients themselves were more likely to regard psychological distress and a lack of information as ongoing problems not effectively met or addressed by the services.

5.9 Satisfaction With Services Provided (Tables 18 – 19)

Satisfaction was measured according to seven different dimensions (See **Table 18**). The item scores were coded so that low scores reflected lower levels of satisfaction and high scores reflected higher satisfaction (1=terrible, 2= mostly dissatisfied, 3=mixed, 4=mostly satisfied, 5=excellent).

On average HCC prisoners reported mixed views about satisfaction and MSU inpatients reported slightly higher levels of satisfaction. However, on a global level there was only a small difference between HCC prisoners and MSU inpatients (p=0.133). When considering the remainder of the seven dimensions available (Ruggeri & Dall'Agnola, 1993), although the differences between the groups were small, HCC prisoners rated their satisfaction levels as significantly lower than MSU inpatients with respect to information, access to services, efficacy of treatments, quality and range of interventions, and involvement of relatives.

It was noteworthy that a substantial number of the participants in both groups (15 of the prisoners and 10 of the MSU inpatients) reported that their relatives were not involved at all in their care or treatment.

Table 18: Levels of satisfaction according to VSSS

Satisfaction domain	HCC Prisoners (n=53)	MSU inpatients (n=67)	p[1]
Global satisfaction[2]			
Mean	3.05	3.37	
Median	3.33	3.50	p=0.133
SD	0.93	1.09	
Range	1 - 4.33	1 – 5	
Skills and behaviour[3]			
Mean	3.14	3.31	
Median	3.31	3.50	p=0.341
SD	0.79	0.93	
Range	1 - 4.31	1.12 – 5	
Information[4]			
Mean	2.70	3.22	
Median	2.83	3.33	p=0.017
SD	0.95	1.10	
Range	1 - 4	1 – 5	
Access to services[5]			
Mean	3.06	3.71	
Median	3.00	4.00	p<0.001
SD	0.75	0.82	
Range	1 - 5	1 – 5	
Efficacy of treatments[6]			
Mean	2.84	3.25	
Median	3.00	3.40	p=0.028
SD	0.78	0.98	
Range	1 - 4	1 – 5	
Types of intervention[7]			
Mean	3.19	3.42	
Median	3.19	3.46	p=0.013
SD	0.48	0.46	
Range	1 – 4.20	2.13 – 4.20	
Relative's involvement[8]			
Mean	2.81	3.10	
Median	3.00	3.00	p=0.071
SD	0.74	0.77	
Range	1 – 4.20	1 – 5	

Continuous data reported to 2 decimal places, p values reported to 3 decimal places. [1]Independent t-test statistic reported. [2]Data available for 40 prisoners and 58 MSU inpatients. [3]Data available for 40 prisoners and 63 MSU inpatients. [4]Data available for 40 prisoners and 58 MSU inpatients. [5]Data available for 40 prisoners and 62 MSU inpatients. [6]Data available for 40 prisoners and 63 MSU inpatients. [7]Data available for 44 prisoners and 66 MSU inpatients. [8]Data available for 38 prisoners and 57 MSU inpatients.

When asked on the VSSS to score how 'right' they perceived their psychiatric treatment to be for them (according to a continuous scale between 0 and 10 where higher scores reflected more appropriate treatment) the MSU inpatients reported significantly higher scores than HCC prisoners (t = 2.31, p = 0.022). See **Table 19**.

Table 19: How right psychiatric treatment is perceived to be

How right is treatment for you (0 – not at all, 10 = absolutely right)	**HCC Prisoners (n=43)[1]**	**MSU inpatients (n=65)[2]**	**p[3]**
Mean	4.37	5.91	
Median	5.00	6.00	
SD	3.51	3.30	p=0.022
Range	0 - 10	0 – 10	

Continuous data reported to 2 decimal places, p values reported to 3 decimal places. [1]Data not available for 10 prisoners. [2]Data not available for 2 MSU inpatients. [3]Independent t-test statistic reported.

There was a significant negative correlation between this question and the number of unmet needs participants reported on CANFOR (r = -0.284, p=0.003), with higher satisfaction scores (based on how right they perceived their treatment to be) associated with lower levels of unmet need. However it was evident that this significant negative association was only true for the MSU inpatients (r = -0.383, p=0.002), and that no such association existed for the HCC prisoners (r = -0.069, p=0.662).

Two open-ended questions at the end of the VSSS were asked to ascertain examples of good practice ands areas in need of improvement.

What was good about the services?

Just under half (24, 45%) of the HCC prisoners thought that there was nothing good about the care and treatment they had received in prison. In spite of this, the most commonly

reported positive aspects about the services related to support from the services (9 prisoners, 17%). For example one prisoner said

'...they make you feel like a human being here and help you care for yourself'

Another HCC prisoner reported that:

'the staff really understand the situation you are in... their knowledge is quite brilliant'

Treatment was also highlighted as 'good' by 4 HCC prisoners (8%), and access to use the gym and the personal qualities of the staff were also reported as positive by a few of the inmates.

Like the HCC prisoners, 27 (40%) of the MSU inpatients reported that there was nothing good about the care and treatment they had received in the MSU. Where good practice was reported it was most commonly in relation to the staff (11, 16%). One patient said:

'they cope very well with very difficult patients and handle them with professionalism'

Another commented:

'the staff will take time out to listen to you and help you with your problems'

Activities provided by the Occupational Therapists (such as the Art Group) (6, 9%), and aspects relating to support (6, 9%) were also seen as positive and good aspects of the MSU services. Several MSU inpatients also reported treatment and the ward environment in a positive light.

Areas in need of change or improvement

Roughly a fifth (10, 19%) of the HCC prisoners reported that major improvements were required in relation to the lack of available activities, boredom being the single most common complaint. Changes to the prison environment were also suggested as well as policies regarding the use of medication. Conflicting with the positive views expressed by some, other HCC prisoners highlighted the attitude of prison staff as problematic. One said:

'staff aren't trained to work with patients, they have a bad attitude to them and mimic the mentally ill'

Others reported that there simply were not enough staff, and those in post needed more training. Some also reported a lack of access to services. Eleven (21%) HCC prisoners said there was nothing particularly bad about the services they had received in prison.

A quarter of the MSU inpatients reported problems relating to a lack of activities (17, 25%) and a lack of appropriate staff or negative attitudes of the staff (16, 24%). Other areas the MSU inpatients were dissatisfied with were the quality and range of food (9, 13%) and the quantities of medication used (8, 12%). Seven of the MSU inpatients were frustrated with restrictions placed on their leave process and limited access to the community. Like the HCC prisoners, about a fifth (13, 19%) thought there was nothing particularly bad about the services they had received in the MSU.

5.10 Placement needs (Table 20 – 22)

Twenty two (42%) of the HCC prisoners and 26 (39%) of the MSU inpatients were rated as requiring transfer from their current placement at the time of interview according to their Consultant Psychiatrist. See **Table 20**.

Table 20: Transfer required from current placement rated by Consultant Psychiatrist

Does the patient/prisoner require transfer from their current placement?	HCC Prisoners (n=53)	MSU Inpatients (n=67)	p[1]
Transfer required?			
Yes	22 (42%)	26 (39%)	p=0.764
No	31 (58%)	41 (61%)	

Percentages reported to nearest whole number. [1]Crosstabs used for categorical data reporting Chi Square statistic, or Fishers Exact Test where individual cells contained less than 5 participants.

Unsurprisingly there were clear differences between the placement needs of the HCC prisoners and MSU inpatients rated as requiring transfer (p=0.003). All of the HCC prisoners required secure facilities, over half requiring medium security and another quarter high security care. By contrast the MSU inpatients normally required step-down services or longer-term care, commonly to address co-morbid disorders or offending behaviour. See **Table 21**.

Table 21: Placement now required for those needing transfer

Placement	HCC Prisoners (n=22)	MSU Inpatients (n=26)	p[1]
High security	5 (23%)	1 (4%)	p=0.003
Long-term medium security (> 2 years)	6 (27%)	3 (12%)	
Short-term medium security	6 (27%)	0	
Long-term low security	0	6 (23%)	
Long-term rehabilitation	0	1 (4%)	
Short-term low security	0	2 (8%)	
PICU	3 (14%)	0	
Open forensic unit	0	1 (4%)	
Supported hostel with 24hr staffing	0	6 (23%)	
Specialist hostel with 24hr care	0	1 (4%)	
Independent accommodation	0	2 (8%)	
Prison/ therapeutic community	2 (9%)	2 (8%)	
Other	0	1 (4%)	

Percentages reported to nearest whole number. [1]Crosstabs used for categorical data reporting Fishers Exact Test as individual cells contained less than 5 participants.

The reasons for any delays in the transfer process are shown in **Table 22**. There were significant differences between the HCC prisoners and MSU inpatients (p=0.012). Transfer delays were less common with the MSU inpatients, with RMOs reporting no delays whatsoever for more than a third of the group. The nine MSU inpatients who required transfer but who were rated as not having experienced any delays were in the process of being transferred. The most common reasons for delays were that the patient was awaiting an assessment from the unit they had been referred to (9, 41%) or that there were no beds available for them to be transferred to (8, 36%).

Table 22: Reasons for delay in transfer process for those rated as requiring transfer from current placement

Placement	HCC Prisoners (n=22)	MSU inpatients (n=26)	P[1]
No delays	0	9 (35%)	P=0.012
No beds available	8 (36%)	2 (8%)	
Awaiting assessment	9 (41%)	5 (19%)	
Awaiting outcome of assessment	1 (5%)	0	
Home Office refused transfer request	0	2 (8%)	
Patient not accepted for other reasons	1 (%)	4 (15%)	
Patient has not yet been referred	3 (14%)	3 (12%)	
Facility required does not exist	0	1 (4%)	

Percentages reported to nearest whole number, p values to 3 decimal places. [1]Crosstabs used for categorical data reporting Fishers Exact Test as individual cells contained less than 5 participants.

5.11 Alcohol Use (Tables 23 – 25)

Eight (15%) of the HCC prisoners and 24 (36%) of the MSU inpatients reported never drinking alcohol. These individuals were therefore excluded from further descriptive statistics for alcohol use. The majority of both of the remaining groups reported drinking at least a few times a week.

A total of 15 HCC prisoners reported that drinking was a problem because it was linked to their offending (n=6), because of health reasons (n=5), because it had been a problem in the past (n=2), or because of economic (n=1) or social reasons (n=1). Over half of the HCC prisoners reported having memory loss associated with drinking and just under half admitted drinking alcohol upon waking. Despite this, few health related problems were reported.

Ten MSU inpatients saw drinking as a problem because alcohol contributed to offending (including being violent) (n=4), because of health reasons (n=2), and because drinking had been a problem in the past (n=1). Two MSU inpatients reported they used alcohol to

block out other problems, and one described himself as an alcoholic, and basically drank whatever he could get his hands on. A third reported drinking alcohol upon waking to make themselves feel better but only a few reported any drinking related health problems such as jaundice or Delirium Tremens (DTs).

Whilst more of the HCC prisoners than MSU inpatients reported drinking on waking, and having experienced health related problems with jaundice or liver problems or DTs these differences were not significant (**See Table 23**).

Table 23: Use of Alcohol

Alcohol use	HCC Prisoners (n=44)[1]	MSU Inpatients (n=42)[2]	p[3]
How often drink alcohol			
Monthly or less	4 (9%)	5 (12%)	
Weekly	6 (14%)	6 (14%)	p=0.653
A few times a week	14 (32%)	17 (40%)	
Daily	20 (45%)	14 (33%)	
Think alcohol consumption is a problem			
Yes	15 (34%)	10 (24%)	p=0.294
No	29 (66%)	32 (76%)	
Drinking associated with any cultural/religious beliefs			
Yes	2 (5%)	3 (7%)	p=0.607
No	42 (95%)	39 (93%)	
Had periods of memory loss because of drinking			
Yes	23 (52%)	20 (48%)	p=0.666
No	21 (48%)	22 (52%)	
Ever drunk alcohol on waking			
Yes	19 (43%)	14 (33%)	p=0.393
No	25 (57%)	27 (67%)	
Ever had fit after stopping drinking			
Yes	2 (5%)	2 (5%)	
No	38 (86%)	40 (95%)	p=0.135
Don't know	4 (9%)	-	
Ever had jaundice or liver problems			
Yes	3 (7%)	1 (2%)	
No	38 (86%)	41 (98%)	p=0.131
Don't know	3 (7%)	-	
Ever had delirium tremens (DTs)			
Yes	12 (27%)	5 (12%)	
No	28 (64%)	36 (86%)	p=0.088
Don't know	3 (7%)	1 (2%)	

Percentages reported to nearest whole number. [1]8 prisoners reported never drinking and data missing for 1 prisoner. [2]24 MSU inpatients reported never drinking and data missing for 1 patient. [3] Independent t-tests used for continuous data and Crosstabs used for categorical data reporting Chi Square statistic, or Fishers Exact Test where individual cells contained less than 5 participants.

When asked about their perceptions about their drinking, differences were apparent between the HCC prisoners and MSU inpatients, with significantly more of the HCC prisoners thinking that in the six months or so before their current detention their drinking had been out of control. HCC prisoners were also significantly more likely to report that

the thought of not drinking made them feel anxious or worried, that they were worried about their alcohol consumption, and that they would find it harder to stop drinking as compared to the MSU inpatients (**See Table 24**).

Table 24: Thoughts about Alcohol Consumption

Thoughts about alcohol consumption	HCC Prisoners (n=44)[1]	MSU Inpatients (n=42)[2]	p[3]
Thought drinking was out of control			
Never	34 (77%)	31 (74%)	
Sometimes	0	6 (14%)	p=0.021
Often or always	10 (23%)	5 (12%)	
Prospect of not drinking made you feel anxious or worried			
Never	30 (68%)	36 (86%)	
Sometimes	2 (5%)	3 (7%)	p=0.047
Often or always	12 (27%)	3 (7%)	
Worried about alcohol consumption			
Never	30 (68%)	40 (95%)	
Sometimes	4 (9%)	1 (2%)	p=0.005
Often or always	10 (23%)	1 (2%)	
Wished you could stop drinking alcohol			
Never	32 (73%)	35 (83%)	
Sometimes	4 (9%)	2 (5%)	p=0.485
Often or always	8 (18%)	5 (12%)	
Could they actually stop drinking alcohol			
Never	19 (43%)	8 (19%)	p=0.012
Sometimes	4 (9%)	1 (2%)	
Often or always	21 (48%)	33 (79%)	

Percentages reported to nearest whole number. [1]8 prisoners reported never drinking and data missing for 1 prisoner. [2]24 MSU inpatients reported never drinking and data missing for 1 patient. p values reported to 3 decimal places. [3]Crosstabs used for categorical data reporting Chi Square statistic, or Fishers Exact Test where individual cells contained less than 5 participants.

There were no obvious differences between the HCC prisoners and MSU inpatients in their reporting of any adverse effects of drinking on their relationships with others, their mental health, or coming into contact with the police or judicial system via the courts. **See Table 25**.

Table 25: Impact of drinking

Impact of alcohol consumption	HCC Prisoners (n=44)[1]	MSU Inpatients (n=42)[2]	p[3]
Relationship with partner			
Never	35 (80%)	36 (86%)	
Minor	3 (7%)	-	p=0.227
Moderate or severe	6 (14%)	6 (14%)	
Relationship with family			
Never	40 (91%)	33 (79%)	p=0.228
Minor	-	1 (2%)	
Moderate or severe	4 (9%)	8 (19%)	
Friendships			
Never	36 (82%)	35 (83%)	
Minor	1 (2%)	1 (2%)	p=0.978
Moderate or severe	7 (16%)	6 (14%)	
Police or Courts			
Never	27 (61%)	25 (60%)	
Minor	5 (11%)	5 (12%)	p=0.985
Moderate or severe	12 (27%)	12 29%)	
Mental Health			
Never	33 (75%)	33 (79%)	
Minor	3 (7%)	3 (7%)	p=0.887
Moderate or severe	8 (18%)	6 (14%)	
Physical Health[4]			
Never	34 (77%)	37 (88%)	
Minor	1 (2%)	3 (7%)	p=0.095
Moderate or severe	8 (18%)	2 (5%)	

Percentages reported to nearest whole number. [1]8 HCC prisoners reported never drinking and data missing for 1 prisoner. [2]24 MSU inpatients reported never drinking and data missing for 1 patient. p values reported to 3 decimal places. [3]Crosstabs used for categorical data reporting Chi Square statistic, or Fishers Exact Test where individual cells contained less than 5 participants. . [4]Data missing for one prisoner.

In summary drinking was only considered a problem by a third of the HCC prisoners and a quarter of the MSU inpatients. These levels were broadly similar to case note records of alcohol problems and the proportions who considered themselves as having unmet needs with alcohol on CANFOR.

5.12 Drug misuse (Table 26 –28)

Ten (19%) HCC prisoners and 13 (19%) of the MSU inpatients reported never having used any illicit drugs. Of those who reported having used illicit drugs in the past, the most frequently used drug was cannabis. Both groups also commonly reported stimulant use and opiate use, with lower proportions reporting having used hallucinogens in the past. The use of solvents and unprescribed use of tranquillisers were less common among the sample. There were no significant differences between the HCC prisoners and MSU inpatients in relation to the types of drugs they reported previously using. See **Table 26**.

Table 26: Types of drugs ever used

Types of drugs used	HCC Prisoners (n=53)	MSU Inpatients (n=67)	p[1]
Ever used solvents			
Yes	10 (19%)	9 (17%)	p=0.418
No	43 (81%)	58 (83%)	
Ever used opiates			
Yes	24 (45%)	24 (36%)	p=0.293
No	29 (55%)	43 (64%)	
Ever used cannabis			
Yes	41 (77%)	53 (79%)	p=0.818
No	12 (23%)	14 (21%)	
Ever used stimulants			
Yes	22 (42%)	33 (62%)	p=0.398
No	31 (58%)	34 (38%)	
Ever used hallucinogens			
Yes	20 (38%)	20 (30%)	p=0.363
No	33 (62%)	47 (70%)	
Ever used tranquillisers			
Yes	13 (25%)	8 (12%)	p=0.072
No	40 (75%)	59 (88%)	

Percentages reported to nearest whole number. p values reported to 3 decimal places. [1]Crosstabs used for categorical data reporting Chi Square statistic.

Similar proportions (approximately a quarter) of the HCC prisoners and MSU inpatients considered that their drug use was a problem. Of the 12 HCC prisoners who reported this,

a third thought it was a problem due to monetary reasons, another 4 thought it affected their health negatively and 3 because taking drugs got them into trouble. Similarly, two of the MSU inpatients thought that their drug use was a problem because of monetary reasons, 4 because of health reasons, and 3 because it got them into trouble. Four other MSU inpatients described their drug use as being a problem because of their current or previous addiction to drugs.

A small number considered their drug use to be associated with cultural or religious beliefs. Three of the five MSU inpatients attribute their drug use to their religion, specifically Rastafarianism. One of the HCC prisoners also stated he used cannabis for religious reasons being a Rastafarian, while the other 3 described their drug use in relation to their friends, where they grew up, or for 'mind opening' experiences.

Significantly more of the HCC prisoners than the MSU inpatients (26% versus 7%) reported having injected drugs in the past. See **Table 27.**

Table 27: Perceptions and use of drugs

Perceptions and use	HCC Prisoners (n=53)	MSU Inpatients (n=67)	P[1]
Do you consider your drug use to be a problem for you?			
Yes	12 (23%)	17 (25%)	P=0.729
No	41 (77%)	50 (75%)	
Is your drug use associated with cultural or religious beliefs?			
Yes	4 (8%)	5 (7%)	P=1.000
No	49 (92%)	62 (93%)	
Ever injected drugs before?			
Yes	14 (26%)	5 (7%)	P=0.005
No	39 (74%)	62 (93%)	

Percentages reported to nearest whole number. p values reported to 3 decimal places. [1]Crosstabs used for categorical data reporting Chi Square statistic, or Fishers Exact Test where individual cells contained less than 5 participants.

Over a third of the HCC prisoners and MSU inpatients (36% and 38% respectively) thought that their drug use head been out of control at least sometimes in the year before their current incarceration/admission, while smaller proportions reported actually being worried about their drug use. There were no significant differences between HCC prisoners and MSU inpatients. See **Table 28**.

Table 28: Thoughts about drug use

Thoughts about drug use	HCC Prisoners (n=42)[1]	MSU Inpatients (n=51)[2]	p[3]
Thought drug use was out of control			
Never	27 (64%)	32 (63%)	
Sometimes	3 (7%)	7 (14%)	p=0.559
Often or always	12 (29%)	12 (24%)	
Did the prospect of not taking drugs make you feel anxious or worried			
Never	29 (69%)	35 (69%)	p=0.661
Sometimes	(5%)	5 (10%)	
Often or always	11 (26%)	11 (22%)	
Worried about drug use			
Never	32 (76%)	37 (73%)	
Sometimes	1 (2%)	4 (8%)	p=0.507
Often or always	9 (21%)	10 (20%)	
Wished you could stop taking drugs			
Never	31 (74%)	29 (57%)	
Sometimes	(5%)	7 (14%)	p=0.173
Often or always	9 (21%)	15 (29%)	
Could they actually stop taking drugs			
Never	14 (33%)	10 (20%)	
Sometimes	3 (7%)	6 (12%)	p=0.289
Often or always	25 (60%)	35 (69%)	

Percentages reported to nearest whole number. [1]10 prisoners reported never drinking and data missing for 1 prisoner. [2]13 MSU inpatients reported never drinking and data missing for 3 patients. [3] Independent t-tests used for continuous data and Crosstabs used for categorical data reporting Chi Square statistic, or Fishers Exact Test where individual cells contained less than 5 participants. P values reported to 3 decimal places.

There were no significant differences between HCC prisoners and MSU inpatients in relation to the impact their drug use may have had on relationships or contacts with others. See **Table 29**.

Table 29: Impact of drug use

Impact of drug use	HCC Prisoners (n=40)[1]	MSU Inpatients (n=48)[2]	p[3]
Relationship with partner			
Never	30 (75%)	36 (75%)	
Minor	-	-	p=1.000
Moderate or severe	10 (25%)	12 (25%)	
Relationship with family			
Never	28 (70%)	26 (54%)	
Minor	-	5 (10%)	p=0.072
Moderate or severe	12 (30%)	17 (35%)	
Friendships			
Never	32 (80%)	32 (67%)	
Minor	2 (5%)	4 (8%)	p=0.376
Moderate or severe	6 (15%)	12 (25%)	
Police or Courts			
Never	26 (65%)	24 (50%)	
Minor	2 (5%)	4 (8%)	p=0.361
Moderate or severe	12 (30%)	20 (42%)	
Mental Health			
Never	24 (60%)	20 (42%)	
Minor	2 (5%)	8 (17%)	p=0.115
Moderate or severe	14 (35%)	20 (42%)	
Physical Health			
Never	26 (65%)	30 (63%)	
Minor	2 (5%)	1 (2%)	p=0.684
Moderate or severe	12 (30%)	17 (35%)	

Percentages reported to nearest whole number. [1]10 prisoners reported never drinking and data missing for 3 prisoners. [2]13 MSU inpatients reported never drinking and data missing for 6 patients. [3] Independent t-tests used for continuous data and Crosstabs used for categorical data reporting Chi Square statistic, or Fishers Exact Test where individual cells contained less than 5 participants. P values reported to 3 decimal places.

5.13 Modelling the characteristics of HCC prisoners and MSU inpatients (Tables 30 – 32)

The findings presented above suggest that the HCC prisoners and MSU inpatients have more similarities than differences, as also suggested in other studies previously (e.g., Lelliott, Audini & Duffett, 2001; Edwards, Steed & Murray, 2002). Therefore, the question remains as to why some people end up in prison while others are diverted out to secure psychiatric services if they are so similar?

The univariate analyses already presented suggest some differences between HCC prisoners and MSU inpatients. This may simply be a product of their current environment and fundamental differences in such areas as length of stay, diagnosis and perhaps offending behaviour. One way of uncovering any such differences, while systematically controlling for the fundamental differences such as placement, length of stay and diagnosis is to use multivariate modelling.

To this end, univariately significant risk factors associated with being in prison or a MSU were transferred into STATA, along with non-significant variables that were thought to potentially discriminate between either placement (prison or MSU) on *a priori* grounds. The strength of association between these individual risk factors and placement was then translated into odds ratios to be more readily interpretable.

Unadjusted odds ratios describing the association between univariate risk factors and placement are shown in **Table 30** and reflect the findings already presented in the Sections above. The unadjusted odds ratios represent the odds of being a prisoner as opposed to an MSU inpatient. By way of example MSU inpatients were about four times more likely to be of non-white ethnicity as compared to HCC prisoners, and about five times more likely than the HCC prisoners to have a substance misuse diagnosis (OR = 0.24 and 0.21 respectively for HCC prisoners as compared to MSU inpatients).

There was also a non-significant trend suggesting that having a personality disorder diagnosis was more likely to be predictive of being a HCC prisoner as opposed to an MSU inpatient, and that a history of alcohol misuse was slightly more likely to be associated with being an MSU inpatient. The need for transfer did not explain these associations.

Table 30: Univariately significant risk factors

Variables	Unadjusted OR	95% Confidence Interval
Background Variables		
Length of admission (per unit increase – days)	0.996	0.994 – 0.998
Non-white ethnicity	0.247	0.115 – 0.531
Ever been married	2.911	1.126 – 7.527
Has attempted suicide before	2.204	1.033 – 4.707
Has no previous convictions	2.544	1.102 – 6.397
No history of drug misuse	2.687	1.203 – 5.999
No history of alcohol misuse*	0.967	0.446 – 2.096
Diagnostic Risk Factors		
Has psychotic disorder diagnosis	0.189	0.082 – 0.439
Has personality disorder diagnosis*	1.505	0.673 – 3.367
Has substance misuse diagnosis	0.212	0.094 – 0.482
Total CPRS score (per unit increase)[1]	1.037	1.006 – 1.068
Total BSS score (current suicidality) (per unit increase)	1.094	1.033 – 1.158
Has physical health problems	2.122	1.019 – 4.422
Self report items		
Degree to which treatment is right (per unit increase)[2]	0.876	0.779 – 0.984
Satisfaction with information received (per unit increase)[2]	0.625	0.418 – 0.934
Satisfaction with access to services (per unit increase)[2]	0.357	0.120 – 0.637
Satisfaction with efficacy of treatment (per unit increase)[2]	0.614	0.392 – 0.962
CANFOR total unmet need score (per unit increase)[3]	1.202	1.060 – 1.363

The unadjusted odds ratios represent the odds of being a HCC prisoner as opposed to an MSU inpatient. *Not univariately significant but included on an a priori basis on clinical grounds. A 95% confidence interval including 1.000 indicates non-significance at p=0.05. [1]One unit increase on continuous scale. [2]One unit increase refers to higher levels of satisfaction on five-point scale. [3]One unit increase refers to the number of unmet needs between 0 and 25.

In order to develop a multivariate model to describe factors associated with being a HCC prisoner or an MSU inpatient, whilst simultaneously controlling for other univariately significant risk factors, the objective (background and diagnostic) risk factors were placed in multivariate logistic regression models. Two models were developed to ascertain the potential benefit of using different types of information or assessments. These were a historical risk factors model and a diagnostic risk factors model. Due to limited sample

size, these models were considered separately. Standard logistic regression was used so all risk factors were entered at the same time (See **Table 31**).

For both models measures of sensitivity (Se), specificity (Sp), positive predictive value (PPV), negative predictive value (NPV) and the Area under the ROC Curve (AUC) were calculated as an indication of how accurate the risk factors in the model were at predicting whether a person would be a HCC prisoner or MSU inpatient when considered simultaneously. A model would be considered to have good predictive accuracy if measures of sensitivity, specificity, NPV and PPV were high and the AUC of the ROC curve was greater than 0.80 (e.g., Mossman, 1994; Dolan & Doyle, 2000).

Table 31: Multivariate logistic regression models describing historical risk factors and clinical risk factors models

Risk factor	Adjusted OR	95% Confidence Interval	Success rate
Historical risk factors			
Length of admission (per unit increase)	0.997	0.995 – 0.999	Se = 75% Sp = 80% PPV = 73% NPV = 82% AUC = 0.87
Non-white ethnicity	0.387	0.144 - 1.401	
Ever been married	2.242	0.639 - 7.870	
Has attempted suicide before	2.768	1.012 – 7.574	
No previous convictions	3.305	0.848 - 12.882	
No history of drug misuse	1.633	0.463-5.758	
No history of alcohol misuse	1.321	0.459-3.891	
Clinical risk factors			
Has psychotic disorder diagnosis	0.141	0.034 – 0.581	Se = 69% Sp = 88% PPV = 80% NPV = 81% AUC = 0.82
Has personality disorder diagnosis	0.584	0.130 – 2.630	
Has substance misuse diagnosis	0.546	0.158 – 1.881	
Total CPRS score (per unit increase)	1.010	0.970 – 1.051	
Any physical health problems	1.142	0.432 – 4.615	
Total BSS score (per unit increase)	1.412	1.024 – 1.275	

The adjusted odds ratios represent the odds of being a HCC prisoner as opposed to an MSU inpatient whilst controlling for other risk factors in the model. Data reported to 3 decimal places, percentages to nearest whole number. PPV = positive predictive value, NPV = negative predictive value. AUC refers to Area Under the Receiver Operating Characteristic Curve.

Only two risk factors remained significant when controlling for the other factors in the historical risk factors model. These were length of stay and having attempted suicide previously. When considering these historical factors simultaneously ethnicity did not remain significantly associated with placement.

When the clinical risk factors were considered simultaneously, having a diagnosis of psychotic disorder was strongly associated with MSU placement, while higher BSS scores were associated with HCC prison placement.

When considering the predictive accuracy of these models (i.e., how many individuals would be correctly classified as HCC prisoners or MSU inpatients using either of the models) the historical risk factors model correctly classified 78% of participants as either HCC prisoners or MSU inpatients. Just considering the clinical risk factors produced a comparable correct percentage classification of 80%. Therefore, if either of these two models were to be used as a predictive tool to determine placement, only one fifth of this sample would be misclassified as a HCC prisoner or an MSU inpatient. However, there was evidence of a lack of fit for the historical model ($\chi2 = 1052.83$, $p<0.001$). The clinical model was more robust with no such evidence of any lack of fit ($\chi2 = 69.48$, $p=0.688$).

There is an argument that length of stay is somewhat tautological as it is determined by, and may be directly or indirectly related to, a number of other risk factors not least of which is the placement in the MSU or prison. When length of stay was excluded from the historical model the success rate of the historical factors model was substantially lower, correctly classifying just two thirds (66%) of the sample as either HCC prisoners or MSU inpatients (**Table 32**). Of note was that non-white ethnicity became significant, with MSU inpatients being 3.45 times (1/0.290) more likely to be of non-white ethnicity when controlling for other variables in the model. However again there was some evidence of a lack of fit ($\chi2 = 45.04$, $p<0.022$), suggesting a lack or robustness.

Table 32: Multivariate logistic regression models describing historical risk factors apart from length of stay

Risk factor	Adjusted OR	95% Confidence Interval	Success rate
Historical risk factors			
Non-white ethnicity	0.290	0.120 – 0.705	Se = 60%
Ever been married	2.283	0.753 – 6.927	Sp = 70%
Has attempted suicide before	2.681	1.102 – 6.516	PPV = 59%
No previous convictions	2.683	0.872 – 8.249	NPV = 71%
No history of drug misuse	1.849	0.616 - 5.547	AUC = 0.76
No history of alcohol misuse	1.031	0.382 – 2.779	

The adjusted odds ratios represent the odds of being a HCC prisoner as opposed to an MSU inpatient whilst controlling for other risk factors in the model. Data reported to 3 decimal places, percentages to nearest whole number. PPV = positive predictive value, NPV = negative predictive value. AUC refers to Area Under the Receiver Operating Characteristic Curve.

If these same historical risk factors (**Table 32**) were entered into a forward stepwise logistic regression model, to promote the most parsimonious model with the risk factors identified, only ethnicity and having previous convictions remained, with odds ratios of 0.240 (95% CI 0.105 – 0.546) and 3.454 (95% CI 1.268 – 9.411) respectively. This model performed as well as the standard logistic regression model in **Table 31**, misclassifying a third (34%) of the sample, with an AUC of the ROC Curve of 0.71. There was no significant evidence of a lack of fit of this simple historical model ($\chi 2 = 3.30$, p=0.069).

If the clinical risk factors were modelled using the same stepwise procedure, having a psychotic disorder (OR 0.131, 95% CI 0.041 – 0.421) and total BSS score (1.141, 95% CI 1.026 – 1.268) remained and produced a comparable model to the standard logistic regression model with all univariately significant diagnostic risk factors, correctly classifying 77% of the sample and achieving an AUC of the ROC Curve of 0.80. Similarly, there was no significant evidence of a lack of fit of this simple diagnostic model ($\chi^2 = 10.13$, p=0.898).

The findings of the historical risk factors model suggest that ethnicity is implicated in placement somehow. When considering the whole sample, non-white participants had a significantly longer length of stay compared to white participants (t=-2.493, p=0.014). However, this difference did not hold when placement was controlled for with no significant differences between non-white and white patients in MSUs (718 days versus 641 days, p=0.675), and some weak evidence suggesting that non-white prisoners had a longer length of stay than white prisoners (247 days versus 85 days, p=0.134). These differences were not explained by the need for transfer out healthcare in prison ($\chi 2$ = 0.878, p=0.349) or being diagnosed with a psychotic disorder ($\chi 2$ = 2.797, p=0.127). This will be explored further in Chapter 7 in terms of meeting the needs of the service populations.

Key Points of Chapter

- HCC prisoners and MSU inpatients appear to be more similar than different from each other
- Relatively straightforward historical, clinical and self-report variables can differentiate between HCC prisoners and MSU inpatients
- Statistical methods can be used to help explain how individual variables work in combination with each other to 'predict' placement and how accurate these predictions are
- The limited sample size may account for some of the findings presented
- Ethnic differences in placement remain an issue for specific investigation

Chapter 6: Results: Service Use

This Chapter presents the range of different services used by the HCC prisoners and MSU inpatients over a six-month period, and the average length and frequency of these contacts. Unit costs associated with these contacts have been applied to ascertain the care costs over the defined six-month period. It should be noted that these contacts included any community contacts before the current detention in the prison HCC or MSU if their length of stay was shorter than 6 months. A quarter (24%) of the MSU inpatients and 83% of the HCC prisoners had been detained (in prison or an MSU) for six months or less at the time of the study. The appropriate cost adjustment is described at the end of this Chapter.

6.1 Service contacts (Table 33)

The number of HCC prisoners and MSU inpatients who reported seeing different service personnel over the last six months are reported in **Table 33.** Significantly more HCC prisoners than MSU inpatients had seen a GP in the last six months but significantly fewer had seen a psychiatric nurse, psychologist, occupational therapist, social worker or group therapist.

Predictably, more HCC prisoners had seen a probation worker, had been in contact with the police or spent time in police custody, and had been to court. There were no differences between the groups in relation to seeing legal representatives.

When questioned about religious-type contacts significantly more HCC prisoners had spent time in one-to-one sessions with a chaplain, priest or sister as compared to the MSU inpatients. The MSU inpatients reported that their lack of access to religious services was

due to limitations on ground leave, while the HCC prisoners attributed their increased use of one-to-one sessions to opportunistic factors associated with regular wing visits by the chaplain/priest/sister.

Table 33: Contact with service personnel in last 6 months

Service personnel	Number HCC prisoners reporting contact (n=53)	Number MSU Inpatients reporting contact (n=67)	p
Health Contacts			
General Practitioner	36 (63%)	24 (36%)	<0.001
Practice Nurse	1 (2%)	1 (1%)	1.000
Psychiatrist	44 (83%)	60 (90%)	0.296
Psychiatric Nurse	17 (32%)	58 (87%)	<0.001
Psychologist	4 (8%)	28 (42%)	<0.001
Counsellor	3 (6%)	0	0.049
Psychotherapist	0	1 (1%)	0.372
Occupational Therapist	3 (6%)	34 (51%)	<0.001
Group therapist	0	18 (27%)	<0.001
Drug/Alcohol Worker	5 (9%)	4 (6%)	0.474
Social Worker	11 (21%)	44 (66%)	<0.001
Criminal Justice contacts			
Probation worker	9 (17%)	0	<0.001
Legal representative	39 (74%)	45 (67%)	0.446
Police contacts	18 (34%)	0	<0.001
Court appearances	42 (79%)	6 (9%)	<0.001
Days in police custody	43 (81%)	2 (3%)	<0.001
Religious contacts			
One-to-one sessions	18 (34%)	8 (12%)	0.004
Group services	7 (13%)	6 (9%)	0.457
Other services	2 (4%)	0	0.109

Percentages reported to nearest whole number, p values reported to 3 decimal places. [3]Crosstabs used for categorical data reporting Chi Square statistic, or Fishers Exact Test where individual cells contained less than 5 participants.

6.2 Length of contacts with service personnel (Table 34)

The intensity of service use over the last six months is shown in **Table 34.** There were wide variations in the total time participants reported having spent with different professionals, as evidenced by the large standard deviations, hence differences between HCC prisoners and MSU inpatients were ascertained using non-parametric as well as parametric tests.

When the two groups were compared the HCC prisoners reported spending significantly longer with the GP and counsellor and significantly shorter time with psychiatric nurses, psychologists, psychotherapists and in group therapy in the last six months.

In relation to criminal justice contacts, the HCC prisoners reported significantly longer contacts with their probation workers, with the police, in police custody and at court. They also spent longer with their legal representatives than the MSU inpatients, but not significantly so.

Table 34: Intensity of contacts in last 6 months

Service personnel	HCC Prisoners (n=53)			MSU Inpatients (n=67)			p[1]
	Mean	Median	SD	Mean	Median	SD	
Health Contacts							
General Practitioner	77	10	194	10	0	32	<0.001 (0.006)
Practice Nurse	0.15	0	1	0.45	0	4	0.877 (0.570)
Psychiatrist	137	60	196	153	60	264	0.553 (0.714)
Psychiatric Nurse	79	0	212	706	240	2109	<0.001 (0.033)
Psychologist	39	0	203	434	0	684	<0.001 (<0.001)
Counsellor	13	0	53	0	0	0	0.050 (0.049)
Psychotherapist	0	0	0	64	0	528	0.374 (0.376)
Occupational Therapist	13	0	75	1574	10	2600	<0.001 (<0.001)
Group therapist	0	0	0	630	0	1485	<0.001 (0.003)
Drug/Alcohol Worker	89	0	421	70	0	302	0.506 (0.774)
Social Worker	261	0	1489	100	20	360	<0.001 (0.393)
Criminal Justice Contacts							
Probation worker	83	0	410	0	0	0	<0.001 (0.099)
Legal representative	214	60	461	174	60	497	0.480 (0.649)
Police contacts	31	0	94	0	0	0	0.001 (0.009)
Court appearances	129	10	348	5	0	30	<0.001 (0.004)
Time in police custody	2282	1440	1840	64	0	391	<0.001 (<0.001)
Religious Contacts							
One-to-one sessions	33	0	106	46	0	201	0.011 (0.677)
Group services	16	0	44	64	0	231	0.557 (0.136)

Service intensity reported to nearest whole minute. [1]Significance of Mann-Whitney U test statistic, with independent t-test in brackets reported to 3 decimal places.

6.3 The cost of providing care in HCCs in prisons and MSUs (Tables 35 - 37)

Using the total time spent with each of the aforementioned service contacts it is possible to calculate the cost associated with those service contacts (**Table 35**) and therefore the care costs associated with keeping someone in Health Care Centres (HCCs) in prison or an MSU over defined time periods (**Tables 36 and 37**). The individual service contact costs used here are listed in **Appendix C.**

As with the intensity of service use over the preceding six months, the HCC prisoners incurred significantly higher costs than the MSU inpatients with respect to contacts with GPs, counsellor and social workers and significantly lower costs with respect to contacts with psychiatric nurses, psychologists and occupational therapists, and in group therapy. The significantly longer periods the HCC prisoners reported spending with GPs, and therefore higher costs, may result from the differences in physical health problems reported by the HCC prisoners and MSU inpatients (**Chapter 5, Section 5.7**).

As would generally be expected, due to their placement and shorter length of stay, the prisoners incurred significantly higher costs over the same time period in relation to criminal justice contacts including time in police custody and with the police, contacts with probation workers and time spent in court (See **Table 35**).

One of the differences most apparent was with respect to court appearances. Only 6 (9%) of the MSU inpatients had been in court in the last six months, most commonly when on remand and appearing at a Magistrates Court. By contrast, all but 11 (21%) of the HCC prisoners had been in court in the last six months, over a third of whom went to the Old

Bailey, thereby attracting a substantially higher cost. The same was true in relation to time spent in police custody, with all but 10 of the HCC prisoners having spent time in police custody in the last 6 months as compared to only 2 of the MSU patients.

Table 35: The cost of service contacts reported in preceding 6 months

Service personnel	Cost of HCC prisoners (n=53)			Cost of MSU inpatients (n=67)			p[1]
	Mean	Median	SD	Mean	Median	SD	
Health contacts							
General Practitioner	£163	£21	£410	£22	£0	£68	<0.001 (0.006)
Practice Nurse	£0.08	£0	£0.57	£0.23	£0	£1.89	0.877 (0.570)
Psychiatrist	£480	£210	£686	£536	£210	£923	0.553 (0.714)
Psychiatric Nurse	£92	£0	£247	£824	£280	£2460	<0.001 (0.033)
Psychologist	£43	£0	£224	£478	£0	£752	<0.001 (<0.001)
Counsellor	£7	£0	£28	£0	£0	£0	0.050 (0.049)
Psychotherapist	£0	£0	£0	£71	£0	£581	0.374 (0.376)
Occupational Therapist	£9	£0	£51	£1076	£7	£1777	<0.001 (<0.001)
Group therapist	£0	£0	£0	£69	£0	£163	<0.001 (0.003)
Drug/Alcohol Worker	£10	£0	£46	£8	£0	£33	0.506 (0.774)
Social Worker	£404	£0	£2308	£154	£31	£558	<0.001 (0.393)
Criminal Justice contacts							
Probation worker	£129	£0	£635	£0	0	£0	<0.001 (0.099)
Legal representative	£281	£79	£606	£228	£79	£653	0.480 (0.649)
Police contacts	£12	£0	£38	£0	0	£0	0.001 (0.009)
Court appearances	£3836	£624	£9323	£663	£0	£4395	<0.001 (0.015)
Time in police custody	£1726	£1089	£1391	£49	£0	£296	<0.001 (<0.001)
Religious contacts							
One-to-one sessions	£16	£0	£51	£22	£0	£97	0.011 (0.677)
Group services	£0.78	£0	£2	£3	£0	£11	0.557 (0.136)

Costs reported to nearest pound unless otherwise stated. [1] Significance of Mann-Whitney U test statistic, with independent t-test in brackets reported to 3 decimal places.

6.4 Total cost of service contacts for HCC prisoners as compared to MSU inpatients

If the service contact costs for each participant are added together, the total service costs can be determined (**Table 36**). There was a distinct positive skew with respect to the costs incurred by HCC prisoners and MSU inpatients.

Table 36: Total cost of providing health and social services

	Cost of HCC prisoners (n=53)	Cost of MSU inpatients (n=67)	P[1]
Mean	£7143	£3868	
Median	£4146	£2815	
SD	£5576	£4020	0.001
Minimum	£141	£0	(<0.001)
Maximum	£22,636	£23,068	

Costs reported to nearest whole pound. [1]Mann Whitney U test with independent t-test reported in brackets, p values reported to 3 decimal places

If the total cost of contacts with all service personnel over the last six months were considered, the HCC prisoners cost significantly more than the MSU inpatients ($t=3.736$, $p<0.001$). This difference was also affirmed using the non-parametric Mann Whitney U test ($U=1156.00$, $p=0.017$).

Cost by site (Table 37)

Service use costs broken down by site are shown in **Table 37**. What was apparent was that the HCC prisoners at HMP Belmarsh accrued substantially higher costs than all of the other groups. Comparing like with like, the HCC prisoners at HMP Belmarsh cost significantly more than the HCC prisoners at HMP Brixton ($t=-4.21$, $p<0.001$). Of the MSU groups the Denis Hill Unit MSU inpatients accrued the highest costs. These costs

were higher than the MSU inpatients at Cane Hill (t=1.95, p=0.060), and the costs accrued by the Bracton Centre MSU inpatients (t=2.41, p=0.020).

Table 37: Costs by site

Site	Average cost per year	Median cost per year	SD
HMP Brixton	£8353	£7185	£6801
HMP Belmarsh	£19,585	£23,347	£11,690
Cane Hill MSU	£5081	£4292	£4994
Denis Hill Unit MSU	£12,069	£7929	£12,628
Bracton Centre MSU	£6409	£6075	£4109

Costs reported to nearest whole pound

6.5 Adjusted costs

6.5.1 Taking account of court costs

As already noted above some of the differences between sites can be explained by the court costs, with 44 out of the 53 HCC prisoners having incurred court costs in the last six months as compared to only 6 of the 67 MSU inpatients. If these court costs are excluded from the figures in **Table 36** and the totals are converted into annual costs the service contacts made by the prisoners cost an average of £6748 annually (median £5558, SD 5953, range £0 - £36,017), which was in fact less than the average annual costs incurred by the MSU inpatients of £7080 (median £5516, SD 7041, range £0 - £46,135). These revised total costs for HCC prisoners and MSU inpatients were not significantly different (t=-0.271, p=0.784; U=1758.50, p=0.928).

Therefore, individual HCC prisoners cost an average of £6748 a year, and up to £36,018 in some cases just for service related contacts. Similarly, the service contacts of MSU inpatients cost an average of £7080 per year, and up to £46,135 a year.

With court costs excluded there were no significant differences in the service costs accrued by HCC prisoners in HMP Belmarsh and HMP Brixton. The differences reported in **Table 37** were therefore attributable to the higher proportion of HCC prisoners at HMP Belmarsh who had been to Crown Court in the last six months. However, if court costs were excluded from the MSU inpatient groups, the inpatients on the Denis Hill Unit still had significantly higher service costs than those at Cane Hill ($t=2.43$, $p=0.021$) and at the Bracton Centre ($t=2.23$, $p=0.030$).

In an attempt to explain these general differences a breakdown of staffing at each of the units was collected (**Appendix A**). Some of the health related differences reported above could be explained by staffing on these units, for example the prisons have dedicated GPs, whereas the MSUs did not have GPs working in their services. Furthermore, differences in access to occupational therapists, psychologists and psychiatric nurses can be mostly explained by different staffing levels. Less access to the 'therapeutic' staff in the HCCs at the prison sites was also associated with security issues and low staffing levels generally throughout the prisons, which has a knock on effect on prisoner movement and time spent out of cell.

While this staffing breakdown was useful for providing possible explanations for differences between the service costs accrued in the HCCs and MSUs, any apparent differences between the MSU sites, and possible explanations why the Denis Hill Unit inpatients costed so much more than the other MSU inpatients, were not immediately apparent from these data.

6.5.2 Accounting for community contacts prior to arrest/detention

A further explanation of the differences reported here may be due to the significantly shorter length of stay in the HCC prisoner sample, as some of the health contacts reported occurred while the participants were in the community and therefore do not directly relate to costs incurred in prison or in the MSU.

The 16 MSU inpatients that had spent some of the last 6 months in the community reported negligible amounts of contact with health or criminal justice professionals. Therefore, the costs estimated above are not unduly affected by any community contacts made by these participants.

With respect to the HCC prisoners, the overwhelming majority (83%) had spent some of the last 6 months in the community. Therefore some of the contacts and associated unit costs listed above were attributable to health contacts made prior to incarceration, for example if they had seen a GP in the community before their arrest. Therefore, the total cost listed is likely to overestimate the true costs associated with being a HCC prisoner. If the relative weights are considered for the intensity of contacts with different health professionals (for example the HCC prisoners reported that on average a third of their contacts with GPs and a sixth of their contacts with social workers were in the community) the average total cost of contacts during the 6-month period dropped by £277, which equates to an average of £554 a year. These community contact costs should therefore be considered when calculating total costs for services.

6.6 Comparing health contact costs with bed and board costs

The annual 'bed and board' costs of keeping a person in HMP Belmarsh and HMP Brixton are £36,082 and £25,271 respectively (including overheads, capital etc). The annual cost of keeping someone in a MSU for a year has been estimated as £107,000 (**Appendix C**). The bed and board costs for both types of establishment include some of the costs associated with staffing and skill mix in addition to the land, structural, buildings and running costs of the establishments (e.g., Netten & Curtis, 2003).

It was not possible to break these annual costs down into their component parts to be able to calculate the full cost of the sample included in this study. Additionally it was not possible to ascertain accurate figures of the cost of keeping a prisoner specifically on a HCC in a prison as staff mixes and routines will differ to those on normal wings. However the dramatic differences in the aforementioned bed and board costs do not appear to be explained by the service contact costs which, when excluding court costs, were not significantly different between HCC prisoners and MSU inpatients. This therefore suggests that there must be substantial differences in non-staff costs associated with imprisonment or detention in a MSU. It is likely that these differences may, at least partly, be explained by fundamental differences in staffing structures and the regimes themselves. Such dramatic differences in service contact costs suggest the need for further investigation at a local and national level.

Key Points

- HCC prisoners and MSU inpatients have similar health care, social care and criminal justice costs

- Differences in cost were associated with the increased use of court services in the HCC prisoner group as compared to the MSU inpatients
- There appear to be substantial differences in non-staff costs associated with imprisonment or detention in an MSU
- It was not possible to determine an accurate figure for the cost associated with keeping someone on a HCC as compared to normal location in prison
- Differences may partly be explained by fundamental differences in staffing structures and the regimes themselves
- HCC prisoners are at a much earlier stage in their care pathway. It is likely that their health and social needs will be qualitatively and quantitatively different to the established care and treatment programmes of MSU inpatients

Chapter 7: Results: Meeting the needs of HCC prisoners and MSU inpatients

This Chapter describes some additional analysis that was undertaken to determine what differentiated those participants who reported high levels of unmet need from those who reported low levels of unmet need. This was carried out to ascertain what factors were associated with multiple problems from a service user perspective and to be able to target interventions at this additionally vulnerable group.

Participants were spilt into two groups based on the proportion of their needs that they rated as currently unmet. Those who reported that less than half of their needs were unmet were classified as the 'low unmet needs group' and those with half or more of their needs rated as unmet were classified as the 'high unmet needs group'. This binary variable was selected as the dependent variable for subsequent analyses.

Of the total sample two thirds (66%) of the HCC prisoners and 36% of the MSU inpatients were classified in the high unmet needs group, and the remainder of the participants were classified in the low unmet need group. Factors that were univariately significantly associated with having low or high levels of unmet need are shown in **Table 38**. The unadjusted odds ratios reported represents the odds of having high levels of unmet need as compared to having low levels of unmet need.

Differences between those who scored low or high levels of unmet need were not explained by diagnosis, although there was a non-significant trend suggesting a weak

relationship between unmet need and having a psychotic disorder (OR = 0.510, p=0.09). No sociodemographic, psychiatric, criminal or service use (cost) variables differentiated between those who had low or high levels of unmet need.

As already mentioned there was a strong relationship between levels of unmet need and whether the person was a HCC prisoner or an MSU inpatient (OR = 3.48, p=0.001). The only other variables significantly associated with levels of unmet need were diagnostic items/measures and self reported levels of satisfaction.

Table 38: Variables associated with low or high levels of unmet needs

Variables	Unadjusted OR[1]	95% Confidence Interval
CPRS factors		
CPRS total score (per unit increase)	1.044	1.023 - 1.065
CPRS sadness score (per unit increase)	2.716	1.756 – 4.199
CPRS suicidal thoughts score (per unit increase)	3.052	1.732 – 5.379
CPRS hostility score (per unit increase)	1.673	1.110 – 2.522
MADRS total score (per unit increase)	1.122	1.064 – 1.184
BSS factors		
BSS total score (per unit increase)	1.204	1.067 – 1.360
BSS screen positive for suicide	1.579	1.216 – 5.810
Ever attempted suicide before	2.723	1.276 – 5.810
VSSS satisfaction scores		
Global satisfaction (per unit increase)	0.399	0.243 - 0.653
Information (per unit increase)	0.433	0.276 – 0.681
Access to services (per unit increase)	0.409	0.235 – 0.711
Efficacy of treatment (per unit increase)	0.431	0.256 – 0.727
Interventions (per unit increase)	0.058	0.018 – 0.186
Relative support (per unit increase)	0.418	0.220 – 0.793
Skills and behaviour (per unit increase)	0.431	0.256 – 0.727

[1]High unmet need compared to low unmet need. P values and 95% CI's reported to 3 decimal places

Due to the strength of association between placement and unmet need it was decided to ascertain if placement might be a confounder, providing an alternative explanation for the strength of the odds ratios **(See Table 39)**.

All of the variables from **Table 38** remained significantly associated with high or low unmet needs when controlling for placement. Placement was only a partial confounder

reducing the strength of association between all CPRS and BSS variables and the dependent variable, with the exception of the hostility score, which increased slightly.

Table 39: Variables associated with low or high levels of unmet needs adjusted for placement (HCC or MSU)

Variables	Adjusted OR[1]	95% Confidence Interval
CPRS factors		
CPRS total score* (per unit increase)	1.041	1.020 – 1.062
CPRS sadness score (per unit increase)	2.479	1.534 – 3.993
CPRS suicidal thoughts score (per unit increase)	2.691	1.489 – 4.861
CPRS hostility score* (per unit increase)	1.839	1.175 – 2.887
MADRS total score (per unit increase)	1.112	1.050 – 1.176
BSS factors		
BSS total score (per unit increase)	1.188	1.055 – 1.038
BSS screen positive for suicide	1.527	1.173 – 1.987
Ever attempted suicide before*	2.332	1.056 – 5.147
VSSS satisfaction scores		
Global satisfaction* (per unit increase)	0.411	0.249 – 0.680
Information* (per unit increase)	0.464	0.293 – 0.736
Access to services (per unit increase)	0.489	0.276 – 0.866
Efficacy of treatment* (per unit increase)	0.295	0.163 – 0.534
Efficacy of treatment* (per unit increase)	0.065	0.020 – 0.213
Relative support* (per unit increase)	0.459	0.240 – 0.877
Skills and behaviour* (per unit increase)	0.433	0.253 – 0.743

[1]High unmet need compared to low unmet need. P values and 95% CI's reported to 3 decimal places. * Placement significantly contributes to model.

When considering multivariate analyses, to control for all other identified factors simultaneously, it was evident that there was a degree of overlap between some of the items/scores listed in **Table 38**. For example, there will be a degree of overlap between

individual CPRS items and the total CPRS score, and between the global measure of satisfaction and the other 6 satisfaction domains on the VSSS.

For simplicity, if just the total summary scores for the CPRS, BSS and VSSS along with placement and having a psychotic disorder are considered in a multivariate analysis (**Table 40**) a model with a sensitivity of 66%, specificity of 93% and AUC of the ROC Curve of 0.86 is produced. This had good predictive accuracy correctly classifying 81% of cases into the low or high unmet need group. This model displayed no evidence of a lack of fit ($\chi 2 = 63.03$, p=0.615).

Table 40: Simple multivariate analysis comparing those with high levels of unmet need with those with low levels of unmet need

Model	Adjusted OR[1]	95% Confidence Interval	Success rate
Being in HCC in prison (compared to a MSU)	1.644	0.412 – 6.558	Se = 66% Sp = 93% PPV = 88% NPV = 78% AUC = 0.86
Global rating of satisfaction (per unit increase)	0.426	0.219 – 0.828	
Total CPRS score (per unit increase)	1.045	0.998 – 1.095	
Total BSS score (per unit increase)	1.331	0.896 – 1.978	
Has a psychotic disorder (compared to not being diagnosed with psychotic disorder)	0.396	0.089 – 1.753	

OR and 95% CI reported to 3 decimal places, success rates to nearest whole percent.
[1]Adjusted for all other factors in the model.

Interestingly if these five variables were placed in a forward stepwise logistic regression, participants diagnosed with a psychotic disorder were five times more likely to have low levels of unmet need (less than half of their needs unmet) than those not diagnosed with a psychotic disorder when controlling for satisfaction and total CPRS

score (**Table 41**). Again, there was no evidence of a lack of fit of this model ($\chi 2$ = 71.00, p=0.346).

Table 41: Forward stepwise logistic regression model comparing those with high levels of unmet need with those with low levels of unmet need

Model	Adjusted OR[1]	95% Confidence Interval	Success rate
Global rating of satisfaction (per unit increase)	0.400	0.206 – 0.775	Se = 72% Sp = 77% PPV = 70% NPV = 79% AUC = 0.84
Total CPRS score (per unit increase)	1.057	1.010 – 1.106	
Has a psychotic disorder (compared to not being diagnosed with psychotic disorder)	0.200	0.058 – 0.686	

OR and 95% CI reported to 3 decimal places, success rates to nearest whole percent [1]Adjusted for all other factors in the model.

When the individual items from the CPRS, BSS and VSSS listed in **Table 38** were considered in a multivariate analysis, the resultant model had a virtually identical sensitivity, specificity and AUC of the ROC curve but was more unstable showing evidence of a lack of fit ($\chi 2$ = 74.57, p=0.033). This lack of fit (as found in multivariate analyses in Chapter 5) was perhaps reflective of the limited sample size and number of cases per variable available in the model as opposed to the accuracy of the model itself. It could be argued that the above model is too general and does not consider specific sub scores such as the MADRS depression score

Summary

In summary these analyses suggest that relatively straightforward clinical assessments and subjective ratings of user satisfaction can predict which types of patients in a service will have high levels of unmet need. These data suggest that individuals diagnosed with a psychotic disorder tend to report that more of their needs are met as

opposed to unmet. It is those who are depressed and who have higher levels of suicidal ideation that report higher levels of unmet need in their current surroundings. The additional vulnerability of this group of service users suggests the need for individually tailored care plans and treatment in safe surroundings.

The consistently strong association between unmet need and self reported measures of satisfaction suggests the need to actively involve the service users in discussions about the developmental needs of services as well as with respect to their own care and treatment.

Key Points

- The only variables significantly associated with levels of unmet need were diagnostic items and self reported levels of satisfaction
- Individuals diagnosed with a psychotic disorder tend to report that more of their needs are met
- Individuals who are depressed and who have higher levels of suicidal ideation have higher levels of unmet need
- These can be identified using straightforward clinical assessments and self-report ratings of satisfaction

Chapter 8: Discussion

This is the first study to investigate the individual needs and levels of service related satisfaction of mentally ill prisoners on prison inpatient healthcare units (HCC prisoners). To place these findings in context, the HCC prisoners were compared to inpatients in medium secure psychiatric units (MSU inpatients). MSU inpatients were selected as a 'gold standard' comparator representing what has been argued to be the optimum psychiatric service available (e.g., Maden, 2001). Before discussing the principal findings of the study it is important to consider several issues relating to the design and conduct of this study that could impact on the generalisability and influence of the results.

Strengths

This is the first study to have investigated and quantified the needs and levels of satisfaction of mentally ill prisoners in healthcare centres. This has not been done before. A representative sample of HCC prisoners and MSU inpatients were included and consent rates were high, allowing for in-depth information to be collected on both groups. Furthermore, the use of standard assessments and outcome measures allow for meaningful comparisons to be made to other patient groups, such as patients in secure psychiatric units as well as patients in the community. More generally, prison health remains a topical area and as such these findings will be of particular interest to clinicians and policy makers.

Limitations

Design

The study was cross sectional in design and therefore only portrays a snapshot view of what is clearly a dynamic situation. The cross-sectional design does not examine how the study participants' needs and views change according to changes in temporal, clinical and social variables. A more robust design would have been to follow-up the participants at fixed time points during the course of their pathway through the criminal justice and healthcare services. This was not possible in this study due to a combination of financial and time constraints.

There is also a need to consider these findings in relation to changing patterns of referrals to and from prisons and MSUs over time and developments in community forensic psychiatric services. This is because delays associated in transfer out of services may vary over time this will have an impact on patient/prisoner reports of needs and satisfaction.

Sample

Comparing HCC prisoners with MSU inpatients meant that the study did not compare 'like with like'. The essence of the comparison was to compare the quality and range of services available in the prison services with the best available treatment a prisoner could expect to receive in the NHS. It has been argued that MSUs provide this 'best available treatment' due to their resources and advantageous staff mix (e.g., Maden, 2001). It has also been reported that the profile of MSU inpatients resembles that of prisoners in healthcare settings in prison (e.g., Lelliott, Audini & Duffett, 2001), and a large proportion of MSU inpatients have been transferred to MSUs from prison.

The study samples were well matched on potential confounding factors (such as age, marital status, previous living circumstances, previous employment status and gender). All of the study sites were in Greater London and the overwhelming majority of the participants came from the London area. Therefore, the characteristics of the HCC prisoners and MSU inpatients may well be qualitatively and quantitatively different from prison health care centres and MSUs in other parts of the country. This may limit the generalisability of the findings. In order to address this limitation it would be necessary to apply the same methodology described here in prison and MSU settings in other geographical areas.

One of the prison sites used in this study, HMP Belmarsh, is not typical of the general prison population as it houses prisoners who are being dealt with by the Central Criminal Court. Due to the severity of the crimes dealt with at this court, and/or the notoriety of the offenders who are on trial there, it is likely that psychiatric disposal would be to secure psychiatric services at the higher end of the continuum; i.e., medium or high security; in line with the 'gravity of offending' model for secure service provision suggested by Coid *et al* (2001a). Therefore, the profile and location of the prisoners included in this study population should be taken into account when interpreting the results, or when considering generalising to other geographical areas. However, the MSU comparator sites served the same geographical catchment areas as the prisons, making the comparison between prisons and MSUs valid.

This study focussed on comparing subjective and objective outcome measures to ascertain the quality and appropriateness of mental health services provided in two very different types of establishment: (1) prisons where the primary focus is on security, and

to a degree punishment (e.g., Gunn, 2000); and (2) MSUs where the primary focus is on treatment and therapy in a secure environment (e.g., Parker, 1985). The methodology and findings did not take account of other day-to-day issues that could explain the individual's reports of their needs and levels of satisfaction. Such issues could include the persons' mental state, their current regime (e.g., basic versus enhanced), and their previous experience of health care services. Such qualitative and quantitative differences may help make sense of the results (Maden, 2001).

Information sources

The quality of the data sources used in the study also requires consideration. In this study, data were collected from case notes and interviews with the prisoner/patient, RMO and a staff member. In an attempt to reduce the likelihood of possible reporting bias, the researcher explained to participants that he was independent from the services and that the content of the interview would remain confidential with no identifiable information being used (within conventional limits). There has been some suggestion that self-report data could be open to recall bias and either an under or over-reporting of certain in some cases in an attempt to appear more or less 'desirable' to the interviewer. Recent papers have suggested that using self-report questionnaires does produce valid responses (e.g., Mirandola, Bisoffi, Bonizzato & Amaddeo, 1999; Goldberg, Seybolt & Lehman, 2002), but a more robust option would be to collect data from multiple sources and cross validate these against each other to gain a more valid and reliable prevalence rate.

While case file data in the MSUs were comprehensive and thorough, the Inmate Medical Records (IMRs) in the prison sites were often sparse and contained little

informative data. If required data were not forthcoming in the medical files the researcher sought the information from the participants themselves in an attempt to collect the most complete data wherever possible and practicable.

As already noted the nursing and prison staff in the prison sites did not feel that they knew the HCC prisoners well enough to complete certain staff rated assessments. This lack of familiarity with the prisoners raises concerns about the standards of clinical care and the competence of clinical services to provide needs based interventions as proposed in the National Service Frameworks for Mental Health (Department of Health, 1999a). Reasons for this perceived lack of knowledge are uncertain but could be due to the relatively short length of stay in the prison HCCs and/or the contradictory responsibilities of staff responsible for provision of supportive/therapeutic care in custodial settings (see Pyszora and Telfer, 2003). On a practical level, this limits the comparisons that can be made between the views of staff and participants on certain measures.

The RMOs in both the prison and MSU sites were specifically prompted for the presence of co-morbid personality disorder and/or substance misuse disorders. However little information was obtained in response to these questions. It is possible that the RMOs did not use ICD-10 diagnoses consistently in their service. The validity of RMO rated diagnoses collected in this study were not validated from additional sources. This may imply the possibility of over or under reporting of certain diagnoses. RMOs were also asked to rate the placement needs of their patients. Due to a continued lack of consensus regarding the working definitions and purposes of different types of service (e.g., Kennedy, 2002) it is possible that the RMOs may have based their

judgements on their experience and knowledge of local services and not on all possible services available that could have met their patients' security and treatment needs.

Data collection and practicalities

One of the most significant operational and practical problems faced by the researcher was accessing the study groups to complete the face-to-face interviews. Prisons operate under a strict and rigid regime, where the need to maintain good order and discipline (GOAD) in appropriately secure conditions will come before any other individual or service related needs (including health services research!). Therefore, access to the HCC prisoners was only permitted during two two-hour activity slots, one in the morning and one in the afternoon. However, these periods also served as time for association, work and therapeutic based activities. Therefore prisoners were commonly involved in a multitude of tasks during the only times when the prison regime would allow/facilitate access to the participants.

An added practical difficulty, predominantly at HMP Belmarsh, was that the prison would frequently (at least once a fortnight) be 'locked down' due to security concerns and/or breaches. When this happened all non-prison personnel were obliged to leave the prison immediately and all prisoners were locked in their cells until the security concerns had been investigated. This process could take hours or days to resolve, further adding to the length of time it took to collect the prison data.

Similar practical problems accessing participants were encountered in the MSUs as all three units operated according to a 'therapeutic working day' model of care. All patients were encouraged to participate in therapeutic and social activities for two

periods of two hours in the morning and the afternoon. Therefore, interviews had to be fitted around these sessions or at times in the evenings and weekends.

The researcher faced a further challenge arranging sufficiently long time slots to interview staff. This problem was exacerbated at the prison sites due to under-staffing of key personnel in all areas of the prison. Staff in the MSU and prison sites commonly cancelled scheduled interview slots at short notice due to staffing shortages, incidents or staff sickness. This also increased the time taken to complete certain aspects of the interview schedule.

Sample size and participation

The sample required for valid comparison according to the original power calculations was achieved, albeit with three more HCC prisoners and three less MSU inpatients than specified. This was attributable to consent rates at the sites. The consent rate for the prison sites was high at 83% and acceptable for medium secure units, at 73%.

Despite there being no significant differences between participants and refusers in terms of age, MHA 1983 Section, diagnosis and ethnicity, those who refused may well have had views or needs that differed from those who participated. Therefore, the study may not have elicited the full range of opinions of HCC prisoners and MSU inpatients. It should be noted that there was some weak evidence of differences between the MSU inpatients who refused and those who participated in terms of their diagnosis, as all of those who refused were diagnosed with a psychotic disorder, all but two of which had paranoid schizophrenia.

In some cases, there were only limited data available on those who refused to participate. This was due to changes in rules about data protection and individual consent being required to access any personal information (e.g., Thomas, Dolan & Thornicroft, 2004). Therefore, in some areas little could be said about how, and indeed whether, the characteristics of participants and refusers differed. The fact that over a quarter of the MSU inpatient sample declined to participate does potentially limit the generalisability of the findings.

An added issue with consent was that it was found to be necessary to provide payment to the MSU inpatients to encourage participation as initial consent rates were less than two in three at the first MSU site (Cane Hill). The lower consent rates in the MSU sites may be due to 'over-researching' of MSU inpatients and the 'token economy culture' that ensues. However, staff reporting that research was not commonplace at Cane Hill, which was the site with the lowest consent rates.

Although payment may be warranted a problem arises because there is no consensus as to what constitutes a reasonable payment to make. This remains an area for further discussion with service providers, service user groups, academics, clinicians and Ethical Committees needing to devise a consensus approach that can be adopted more consistently at least at a local level if not nationally. A national network within the secure services would contribute towards achieving some consistency in this regard.

In light of the aforementioned limitations, the findings from the study are now discussed in relation to the characteristics of the sample, and then with reference to each of the four experimental hypotheses originally documented in the Methodology

Section (**Chapter 4**). Suggestions are given regarding the implications of these findings and how research in the area might be taken forward in future studies.

Characteristics of the sample

The prison group

The HCC prisoners were not an epidemiologically representative sample of prisoners. They are somewhat atypical of the prison population as a whole; therefore comparative data available are somewhat limited. Comparisons are therefore made with data from the prison remand population where possible.

The consent rate in this study was broadly similar to that of the Office of National Statistics (ONS) study, which achieved an 88% participation rate (Singleton *et al*, 1998). When compared to the ONS remand population the study sample described here were generally older, which may explain the slightly higher proportion in this sample that were divorced or separated. A lower proportion of the study sample were of white ethnicity than figures reported in the ONS study, which reflects the ethnic diversity of inner London health services (e.g., Pierczhniak *et al*, 1999), and diagnoses of mental disorder in ethnic minority groups (e.g., Skilbeck *et al*, 1994; Ndegwa, 2002). As would be expected, this sample also had a more established psychiatric history than the general prison population, as compared to the ONS general remand population (Singleton *et al*, 1998).

Diagnostically the prison sample showed a relatively heterogeneous range of disorders and problems; although rates of serious mental disorder were considerably higher than in other published studies of psychiatric disorder in remand populations (e.g., Brooke,

Taylor, Gunn & Maden, 1996). Prison health care centres have been suggested to operate as overflow services for psychiatric intensive care units and MSUs, as commented upon previously (e.g., Maden *et al*, 1999b; Lelliott, Audini & Duffett, 2001; Edwards, Steed & Murray, 2002; Melzer *et al*, 2004a).

The MSU inpatient sample

The MSU inpatient sample reflected the broad characteristics described in the national survey of MSUs by Melzer and colleagues (2004b) and those of Coid *et al's* (2001b) description of patients in seven Health Authorities; i.e., patients were likely to have a history of serious violence, a diagnosis of schizophrenia, and recently have received a custodial sentence. Patients were transferred to the MSUs from a variety of sources, which included high and medium security, court/prison and general psychiatric services, supporting Lelliott, Audini and Duffett's (2001) observation that MSUs deal with a heterogeneous group of patents. The MSU study sample were descriptively similar to the inner London sample described by Lelliott, Audini and Duffett (2001), Maden *et al* (1999a) and Baxter, Rabe-Hesketh & Parrott (1999).

Where this sample differed from previous studies was in length of stay, with the Baxter sample (Baxter, Rabe-Hesketh & Parrott, 1999) having a relatively short average stay of forty-four weeks and the Lelliott sample (Lelliott, Audini and Duffett, 2001) that averaged an eighteen-month length of stay. The length of stay of the MSU inpatients in this study was just under 2 years, and more in line with the findings of recent studies by Pierczhniak *et al* (1999), Brown, Lloyd & Donovan (2001), and Edwards, Steed & Murray (2002) who reported lengths of stay of two years or more. These changes in length of stay appear to be temporal, and may represent a recent shift in service

provision. They reflect the need for secure psychiatric services catering for patients with longer-term problems and particular patterns of psychiatric and criminal history resulting from changes in referral patterns to MSUs (e.g., Lelliott, Audini & Duffett, 2001).

The majority of MSU inpatients suffered from psychotic disorders, typical of recent national admission trends (Melzer *et al*, 2004b). High rates of co-morbid substance misuse diagnoses were also found, similar to levels reported in other studies (e.g., Baxter, Rabe-Hesketh & Parrott, 1999; Maden *et al*, 1999b). The relatively low rates of personality disorder may be reflective of the piecemeal fashion in which these disorders are assessed between and within services and may be partly down to clinician related factors, such as research interests, training and local priorities. Further reasons for these low rates may be attributable to the ethnic diversity of the MSU inpatients and lower diagnostic frequency of personality disorders in non-white ethnic populations (e.g., Ndegwa, 2002), especially in greater London.

Hypothesis 1: Prisoners will have the same number of needs as MSU inpatients but significantly more unmet needs

This hypothesis was based on a series of papers highlighting the high levels of unmet need in the prison population (e.g., Gunn, Maden & Swinton, 1991; Brooke *et al*, 1996; Hardie *et al*, 1998; Thomas, 2001; Harty *et al*, 2003) accompanied by the reportedly poor service infrastructure in prison establishments (e.g., Reed & Lyne, 1997, 2001) addressing the complex and sometimes longstanding difficulties experienced by prisoners either prior to or as a result of incarceration (e.g., Brooke *et al*, 1998; Gunn, 2000).

The data in this study lends support to the study hypothesis. The individual needs profiles reported by HCC prisoners and MSU inpatients using the CANFOR were considered. The HCC prisoner and MSU inpatient groups reported the same number of needs; averaging 7.32 and 7.36 needs respectively out of a possible 25 need domains. Individual totals for the HCC prisoners varied between 1 and 14 needs, and between 3 and 14 needs for the MSU inpatients. No statistically significant differences were found between the total number of needs reported by HCC prisoners and MSU inpatients.

When the total need score was divided into met and unmet needs it was evident that the HCC prisoners reported significantly more of their (self-identified) current needs to be unmet as compared to the MSU inpatients (5.15 versus 2.73 unmet needs respectively).

These data suggest that the HCC prisoners perceived that they were not receiving appropriate help (from formal and/or informal sources) for nearly three quarters (70%) of the problems they had identified as current difficulties, or that any help they were receiving was not helping them. By contrast the MSU inpatients reported that under half of their current difficulties remained significant problems and therefore unmet by current interventions. The levels of unmet need reported by the HCC prisoners is consistent with a previous study by Thomas (2001) and the findings of Harty *et al* (2003), both of which sampled mentally ill prisoners in the health care centre at HMP Belmarsh and reported high levels of unmet need using CAN assessments.

However if staff views of the presence or absence of needs according to the 25 CANFOR domains were considered there was no support for the experimental

hypothesis, with staff reporting no statistically different differences between the total number of needs HCC prisoners and MSU inpatients had, or the level of unmet need in these populations. The low number of responses from HCC prison staff may skew this finding and as such, this result should be considered with caution. However previous studies in general adult mental health settings have suggested that staff will have different perceptions about the presence or absence of needs (e.g., Slade *et al*, 1996; Baxter, Rabe-Hesketh & Parrott, 1999), and also that they tend to report lower levels of unmet needs than service users (e.g., Lasalvia *et al*, 2000; Phelan *et al*, 1995).

Comparing these results with other findings in general adult psychiatric services; Leese *et al* (1998) reported that acute psychiatric inpatients had 6.4 needs overall with an average of 1.5 unmet needs (SD 1.8). Therefore, both the HCC prisoners and the MSU inpatients had more needs overall and significantly more unmet needs than general adult patients with psychotic illnesses (both $p<0.001$). In comparison with staff views of the high secure psychiatric hospital population (Harty *et al*, 2004) the HCC prisoners and MSU inpatients had significantly fewer needs overall ($p=0.022$ and $p<0.001$ respectively) but significantly more unmet needs ($p=0.007$ and $p<0.001$ respectively) than mentally ill men in the three high secure hospitals in England. These findings therefore support the idea that patients in the more secure end of the forensic services spectrum present staff with more difficulties or problems that will inevitably require more complex input from multidisciplinary, multi-agency services over sustained periods of time.

Further support for the experimental hypothesis was found in relation to the number and range of physical health problems reported by the HCC prisoners and MSU

inpatients, again with HCC prisoners reporting up to twice as many different current physical health problems as the MSU inpatients. Reasons for this have been highlighted elsewhere particularly in relation to the geographical mobility of prisoners and lack of access to what would be considered routine Primary Care services. An added concern here was that over a quarter of the prisoners reported having injected drugs before, which may lead to further health related problems.

The study findings support the hypothesis, that HCC prisoners and MSU inpatients have the same number of needs but that HCC prisoners have significantly more unmet needs. These findings warrant particular attention in relation to the quality and range of health and social care interventions available and, in particular, the alarming levels of unmet need reported by the HCC prisoners. As Slade *et al* (1996) note, there is an increasing expectation that mental health service users should become actively involved in shaping services and developing their own care plans. This position has since been reinforced in the National Service Frameworks for Mental Health (Department of Health, 1999a). Recent initiatives being piloted to address the considerable problems of self-harm and suicide in prisons have recognised the need to actively involve prisoners in care planning procedures (HM Chief Inspector of Prisons for England and Wales, 2005). However, Faulkner & Morris (2003) suggest a fundamental problem remains in that simply being in a secure environment has a significant negative effect on any opportunities for user involvement because of issues of confidentiality, access to information and physical access by 'outsiders'.

Hypothesis 2: Satisfaction with services will be significantly higher in prisoners than in patients in MSUs

This hypothesis was based on the premise that although the HCC prisoners would have access to far less variety of activities, treatments and therapies they would value their time out of cell more and therefore would be more satisfied with the care and treatment they received.

The findings indicated that in a global sense there were no differences in general levels of satisfaction with services between HCC prisoners and MSU inpatients. Both groups generally reporting mixed views. Some prisoners stated that they received good support from services in the prison, while some of the MSU inpatients reported dissatisfaction with various aspects of the services available in the MSUs. However this was a somewhat crude summary score based on only two questions on the VSSS and therefore may not be sensitive to particular aspects of service care and delivery where differences may well exist. This interpretation was borne out when the different dimensions of satisfaction proposed by Ruggeri and Dall'Agnola (1993) were considered. The HCC prisoners were actually less satisfied than MSU inpatients with all assessed aspects of the care and treatment they received; a finding that contradicted the study hypothesis.

HCC prisoners were significantly less satisfied with information that was given to them. The most common responses from prisoners related to their criminal cases and their treatment. Generally, the HCC prisoners reported that they were not kept informed about progress with their case and imminent court dates. They also reported

not knowing what was happening in terms of being transferred out of prison to psychiatric services or why they were taking the medication they had been prescribed.

HCC prisoners were also significantly less satisfied in terms of access to services that they thought were not available as and when required. The same finding was evident in relation to the efficacy, quality and range of interventions available; with the HCC prisoners reporting significantly lower levels of satisfaction with these aspects of their care and treatment. In some ways these findings are intuitive, as it is well documented that the standards of health care available in prison are inferior to the NHS (e.g., Smith, 1999; Reed & Lyne, 2000; Earthrowl, O'Grady & Birmingham, 2004).

It was interesting to note the levels of involvement of relatives in the care and treatment of both the HCC prisoners and the MSU inpatients. Overall, the HCC prisoners were less satisfied with this aspect of the services than the MSU inpatients but the differences were not statistically different. A substantial number of the participants reported that their families or friends had no involvement whatsoever in their care or treatment. Reasons for this were complex but generally centred around the patient/prisoners not wanting their friends/families to know their problems, not wanting to burden them, that they did not have these social contacts in the community, or that family and friends did not live close to he MSU or prison. The apparent lack of social and peer support networks for these individuals is particularly concerning when considering aftercare packages and follow-up support in the community.

On a global level these satisfaction ratings findings are consistent with patient self report findings from the PRiSM psychosis study by Leese *et al* (1998), who reported

that patients had a mean VSSS satisfaction score of 3.76, indicative of a mixed to mostly satisfied view of local mental health services. The study findings suggest that the MSU inpatients and HCC prisoners are less satisfied with their care and treatment than patients in the community.

Holloway and Carson (1999) referred to satisfaction with services as a key outcome measure for mental health services. Interestingly though the authors do note that such self-report measures of satisfaction are inversely correlated with depression scores on the MADRS sub scale of the CPRS (Åsberg *et al*, 1978). Therefore, with this in mind, it may be that the differences reported here may be accounted for by the significantly higher depression scores of the prison HCC group in comparison to the MSU inpatients. The inter-relationships between these factors remain an issue for future longitudinal research studies.

Hypothesis 3: Profiles of need will differ significantly between prisoners and MSU inpatients

According to self-report on CANFOR there were significant differences between HCC prisoners and MSU inpatients on six out of the twenty-five domains. Significantly, more of the HCC prisoners reported having needs in the domains of psychological distress, self-harm, company, access to use the telephone and with their own self-care (from **Table 15, Chapter 5**). Obviously, these findings could be due to the effects of incarceration.

The increased needs for self-care may be due to a lack of access to showering facilities and toiletries among the HCC prisoners and lack of time out of cell. The increased

problems with self-harm among the HCC prisoners are of particular concern, and a long-standing issue with prisoners (e.g., Wool & Dooley, 1987; Liebling, 1995), and as such represent an unmet treatment need.

Significantly fewer HCC prisoners than MSU inpatients reported having needs with respect to psychotic symptoms. This finding is likely to be the result of diagnostic heterogeneity of the HCC prison sample, as compared to the high prevalence of psychotic disorders among the MSU inpatients.

HCC prisoners were three and a half times more likely than MSU inpatients to report 'high levels' of unmet need according to CANFOR, with two thirds of the sample reporting that more than half of their needs were unmet in their current setting. If just these unmet needs were considered, the same differences as above were evident but, in addition, the prisoners were significantly more likely to report continued problems with alcohol and significantly more likely to report not having sufficient structured daytime activities in the prison.

The differences with respect to alcohol only referred to small numbers of the sample overall. This finding may be indicative of the shorter length of stay in the prison sample and access to alcohol. It is noteworthy that a substance misuse diagnosis was significantly less common among the HCC prisoner sample even though problems with substance use are common especially in the remand population (e.g., Grubin, Birmingham & Mason, 1997; Singleton *et al*, 1998). This is likely to be due, at least in part, to under-diagnosis of substance abuse disorders in prison and ongoing inadequacies of the prison reception screening procedures (e.g., Grubin, Parson &

Hopkins, 1999). The study confirms that this is an area of significant unmet need, that may have serious implications for the prisoner's risk of recidivism and implications for their future physical and mental health (e.g., Brooke *et al*, 1998; Shaw, 2002b).

Time out of cell is a key performance indicator for prisons (e.g., Prison Reform Trust, 2004). Participants in this study reported that problems with daytime activities and time out of cell were mainly due to staff shortages in the prison and redeployment of healthcare discipline staff to cover staff sickness in other areas in the prison. Participants also reported that they were not able to access work areas in the prison due to being HCC inpatients so were additionally limited with activities they could do. A further issue relates to the physical structure of the health care centres themselves, which have very little (if any) space readily available for periods of association. This problem along with overcrowding has been shown to be associated with an increased risk of suicide in prison (Leese, Thomas & Snow, *submitted*) and as such remains a significant problem for HM Prison Service.

Prisoners were also significantly more likely to report physical health problems than the MSU inpatients. Prisoners reported up to six different physical health problems, commonly requiring regular medication. These findings are consistent with those of Marshall, Simpson & Stevens (2000a) who described prisoners as placing a heavy demand on primary care services, and Bridgwood and Malbon (1994) who reported significant health morbidity among prisoners. These findings support the continued need for comprehensive accessible primary care services for prisoners.

There were no significant differences in the overall number of HCC prisoners and MSU inpatients requiring transfer, with over a third of both samples rated by their RMO as requiring a different placement than their current one. The need for transfer out of prison HCC was in line with what would be expected (e.g., Thomas, 2001; Isherwood & Parrott, 2002), but the rates of transfer out of the MSUs were surprisingly high. This could be reflective of the multiple roles that MSUs need to fulfil (e.g., Lelliott, Audini & Duffett, 2001) and more fundamentally a lack of lower security inpatient facilities and community placements to house those inappropriately placed in medium security.

There were significant differences between the HCC prisoner and MSU inpatients in the types of placement required. All the HCC prisoners who were deemed to need transfer required secure psychiatric services. By contrast the majority of the MSU inpatients required step-down services, in either low secure settings or community based staffed hostels.

In summary the study data supports the experimental hypothesis that profiles of need differ significantly between HCC prisoners and MSU inpatients. However apart from these differences in need profiles HCC prisoners and MSU inpatients have many similarities. Using the same assessments in both prison and MSU settings has allowed meaningful comparisons to be drawn between user and staff views of needs. The next step in taking these findings forward would be to explore if and how needs can be addressed, and if clinical outcomes and quality of life or HCC prisoners and MSU inpatients can be improved.

Hypothesis 4: There will be a significant association between patient views of satisfaction and need

This hypothesis was explored by considering multiple dimensions of satisfaction and the number of unmet needs recorded on CANFOR. There was a significant negative correlation between 'global' satisfaction on VSSS and unmet needs on CANFOR with higher levels of satisfaction associated with lower levels of unmet need in both the prison and MSU inpatient group. This association was also evident for both groups in relation to the efficacy of treatment and care provided, skills and behaviour of staff and information received.

There was a significant negative correlation between how appropriate participants perceived their treatment to be and the number of unmet needs they reported. More appropriate treatment was associated with lower levels of unmet need. Further investigation uncovered that the association was strong for the MSU inpatients but non-significant for the prisoners, although the trend was in the same direction. This may be explained by the lack of available treatments available in prison and hence the higher levels of unmet need reported by the HCC prisoners. Indeed, in this study the participants with high levels of unmet need (i.e., reporting that more than half of their needs according to CANFOR were unmet) rated themselves as having significantly lower rates of self-reported satisfaction according to all seven of the VSSS domains.

These findings are consistent with studies in general adult psychiatric services. Leese *et al* (1998) argued that unmet needs had the most impact on subjective levels of satisfaction reported. Leese and colleagues suggest a rationale for this relationship based on length of service contact. They propose that longer lengths of contact with

services are associated with higher satisfaction and lower unmet needs, attributing this to the effects of prolonged engagement with services. Given that the prisoners in this study had significantly shorter lengths of stay as compared to the MSU inpatients, this may partly explain the differences in satisfaction and unmet needs reported.

The satisfaction findings may also be explained by the differences in service provision and staffing personnel employed at the prison and MSU sites as ratings of need are to a degree determined by what services are available locally (e.g., Brewin, 1992). These differences are evident from the frequency and intensity of service use reported in **Chapter 6, Tables 33 & 34.** As significantly fewer of the HCC prisoners had spent time with health care personnel, including psychiatric nurses, psychologists, social workers, occupational therapists and group therapists in the last six months, this may explain the lower satisfaction scores associated with each of the VSSS domains.

In summary, there was support for the hypothesis that there is a significant association between satisfaction and need, with higher levels of satisfaction associated with lower levels of unmet need. Ruggeri *et al* (2003) referred to patient rated satisfaction with services as a key outcome measure that is increasingly being used in mental health service evaluation. A key question that remains unanswered in this study and others is whether a change in need precedes a change in self-rated satisfaction or whether changes in subjective ratings of satisfaction have an effect on perceived needs. Even though the relationship between these outcomes is becoming increasingly robust, the cause and effect relationship of these two concepts remains unclear (Slade *et al*, 2004).

Hypothesis 5: HCC prisoners will accrue significantly less costs in relation to service contacts as compared to MSU inpatients

This hypothesis was based on findings suggesting that prisoners have much more restricted access to mental health services than psychiatric inpatients. As such, it was hypothesized that their service contact costs would be significantly lower than MSU inpatients.

This study found that there were no differences in service related costs between HCC prisoners and MSU inpatients, once court costs were adjusted for (Chapter 6). That there were no differences is an interesting finding. The range of specialist health professionals working in the different types of services at the time of study varied considerably, with far less specialist staffing resources being available in the prison sites. These findings may therefore be attributable to the lower availability of particular specialists working in the prison sites, in particular therapeutic staff (such as occupational therapists and psychologists). However, it could also be that the HCC prisoners had more contacts with the types of staff who happened to be available in lieu of any other more appropriate specialists. Furthermore, the HCC prisoners are at a much earlier stage in their care pathway. It is likely that their health and social needs will be qualitatively and quantitatively different to the established care and treatment programmes of MSU inpatients. Therefore, these results should be interpreted with caution.

The full costs of keeping a person in prison for a year have been quoted in HM Prison Service Annual Report and Accounts 2002 – 2003 as between £25,271 for HMP Brixton and £36,082 for HMP Belmarsh, while the cost of keeping someone in an MSU

for one year has been estimated as £107,000 in 1999/2000 (Department of Health, 2000). As previously mentioned, the bed and board costs for both types of establishment include some of the costs associated with staffing and skill mix in addition to the land, structural and running costs of the establishments (e.g., Netten & Curtis, 2003). It was not possible to break these costs down into their component parts for a more accurate cost comparison. However revisiting the point made by Maden (2003), there is an economic argument for providing more treatment opportunities in prisons and thereby reducing the need for transfer to more costly secure psychiatric services. However there remains a problem with individuals who refuse medication as prisons are not designated as hospitals so clinicians cannot currently compulsorily treat individuals (e.g., Barry, Gudjonsson, Gunn, Hall, Orban, Stanley & Taylor, 2000).

The figures especially for MSUs require clarification as the proxy costs used (that of the cost of a high secure bed in 1999/2000) are almost certainly inaccurate; current costs in the sites investigated in this study are nearer to £150,000 per year (Johns, 2005, *personal communication*). This study found differences in costs between the different MSUs sampled. This is consistent with previous figures (e.g., Department of Health, 2000) and highlights an ongoing fundamental problem when trying to develop a generic cost for an MSU bed. Due to the wide variations in costs of MSU beds nationwide it is possible that these costs will need to be calculated on an individual site basis in the same format as the prison costs are published. These will require detailed economic investigation using appropriately powered epidemiologically representative samples (e.g., Byford, McCrone & Barrett, 2003).

Specific Issues

Diagnosis

The variations in diagnostic classifications in all sites sampled in this study suggest the need to incorporate formalised structured assessments of Axis I and II pathology. This is particularly the case with respect to co-morbid personality disorders and substance misuse disorders. These disorders are known to be highly prevalent in forensic mental health settings but continue to be consistently under-reported, despite wide recognition that they play a significant role in treatment, compliance and outcome (e.g., Brooke, Taylor, Gunn, & Maden, 1998; Moran *et al*, 2003). Using structured clinical assessments would lead to a more standard approach to the assessment and diagnosis of both inpatients and prisoners. The incorporation of such assessment methods would therefore have clear benefits for both health services research and clinical practice. The application of such methods is lacking at the time of writing.

Substance Misuse

The study findings suggest that the HCC prisoners were significantly less likely to be diagnosed with substance misuse disorders compared to MSU inpatients. While there were no differences in recorded histories of alcohol misuse, significantly more of the MSU inpatients had a lifetime history of drug misuse recorded in their medical notes. These differences are counter-intuitive when considering the prevalence rates of both drug and alcohol misuse reported in previous large-scale studies of prisoners (e.g., Mason, Birmingham & Grubin, 1997; Singleton *et al*, 1998).

It is likely that the low reported rates are again an under-representation of the true prevalence of these disorders. Much information on this area relies on self-report and

as such is prone to responder bias and general under-reporting. Furthermore, the clinical services did not use standardised clinical interview or self-report instruments to elicit information on problematic substance use. In addition to the use of clinical assessment instruments, there may also be a role for routine drug testing, as advocated by Shaw (2002b). However drug testing would presumably need to be done on a voluntary basis, the results of some tests (e.g., hair analysis) are not available immediately, and the test kits are expensive. Methods for accurately diagnosing and assessing diagnostic and sub threshold levels of problematic use of drugs and/or alcohol remain a priority area for funding and investigation.

The need for transfer

Forty two percent (42%) of the prisoners and 39% of the MSU inpatients were rated by the Consultant Psychiatrist as requiring transfer from their current placement. In this study the Consultant Psychiatrist was asked about placement need as they commonly instigate the transfer process by requesting assessments from provider units (e.g., Thomas, Dolan & Thornicroft, 2004).

While it is clearly evident that it remains a central priority for health services to expedite transfers between services, as detailed under provisions of the National Service Frameworks for Mental Health (1999a), the reality is somewhat more complicated. Maden (2003) addresses this issue for prisoners and argues that the true prize would be for prison health services to be able to identify and treat mental health problems before they reached the threshold for needing transfer, thereby bypassing the bottleneck in service provision that develops when a reactive model is used. This would entail prisons providing the same quality and range of care as the NHS, a model

that in the views of some commentators is fundamentally at odds with the need for security and GOAD in prisons (e.g., Gunn, 2000). Maden (2003) argues that although this approach would cost more (for example costings suggest a difference between £110,000 for a MSU bed versus £33,000 for a prison bed) it would ultimately provide proper and appropriate treatment for prisoners and therefore would be of better value. He also argues that in fact as the Responsible Health Authorities would be responsible for the costs it may well help expedite appropriate transfer and treatment for the prisoners, which may help to address the inappropriate delays currently experienced (e.g., Earthrowl, O'Grady & Birmingham, 2003). However, as noted by Wilson (2004), having '*timely access to an appropriate hospital bed...*' detailed under Standard 5 of the National Service Framework for Mental Health (Department of Health, 1999a) continues to remain one of the more problematic standards to successfully implement in the prison estate.

The same situation is true for patients leaving medium security psychiatric services. Where long-term medium security was previously identified as the service gap of the 1990s (e.g., Taylor, Maden & Jones, 1996) it may now be that long term low secure and further step-down supported hostel and staffed facilities represent the service gap in this decade, as there has been a sharp rise in MSU beds under the NHS Plan (Department of Health, 2001a) but no comparable provision for step-down services for those leaving MSUs. It may be that the length of time it takes to transfer patients out of medium security is largely dependent on local collaborations and the quality of service links with receiving services and agencies. Despite an increase in the number of forensic beds in the UK (Priebe, Badesconyi, Fioritti, Hansson, Kilian, Torres-Gonzales, Turner & Wiersma, 2005) the same bottlenecks remain at all levels of care. At present, there is

a lack of research into the evaluation of different pathways out of secure care, e.g., the role of high support units in the community that are closely integrated with specific inpatient units. This remains an area for investigation.

An additional confounder here is the ongoing problem relating to information sharing (e.g., Health Advisory Committee, 1997) especially between prisons and NHS services (e.g., Anaraki, Plugge & Hill, 2003). Although the development of a common strategy for sharing such health related information is clearly warranted there are still heated debates ensuing as to how such a venture could work in practice. One forthcoming development that could help make this sharing strategy a reality is the introduction of electronic patient records and access to a 'health information spine'. While the potential benefits of adopting such a method foster many positive processes such as informing quality control, clinical governance and performance management (e.g., Booth, 2003), there are still considerable practical issues to consider that have been highlighted before such as confidentiality, data protection and human rights (e.g., Shaw, 2002b). As such, at the time of writing, the quality and extent of information sharing between services and agencies remains piecemeal and inconsistent.

Ethnicity

In this study, people of non-white ethnicity were four times more likely to be in MSUs (as opposed to prisons) than those of white ethnicity. This finding is consistent with other studies and further reinforces the over-representation of Black African and Caribbean groups in secure psychiatric services (Bhui, Brown, Hardie, Watson & Parrott, 1998; Baxter, Rabe-Hesketh & Parrott, 1999; Maden, Friendship, McClintock & Rutter, 1999; Pierczhniak *et al*, 1999; Edwards, Steed & Murray, 2002; Bhui, Hull,

Priebe, Mole & Feder, 2003; Gudjonsson, Rabe-Hesketh, & Szmukler, 2004). Due to the constitution of the sample, ethnicity was grouped as 'white' versus 'other' so no distinction can be made between particular minority ethnic groups, such as differences between those of Black Caribbean and Black African descent. Such groupings were required to facilitate statistical comparison and are in line with similar methodological reasons as described previously (e.g., Maden *et al*, 1999b).

The reasons for this over-representation were not clear from these data but they clearly reflect a considerable ongoing challenge for staff and services. One possible explanation for not being able to identify reasons for this over-representation in this study is that the assessments included in this study may not have been sensitive enough to pick up any salient ethnic differences (e.g., Ndegwa, 2002). However, the objectives of this study did not include seeking to identify if there were any ethnic differences in placement. For this reason the sample size was not powered with this in mind, and the small numbers we are able to report here preclude carrying out any meaningful sub-group analyses. These small numbers and lack of statistical power are common with forensic mental health research. For example Maden (2001) points out that ethnic over-representation is a common post hoc finding in studies that have been designed to address other research questions. He strongly argues that such a consistent finding of this magnitude clearly warrants consideration of this over-representation as a research question in its own right. Therefore, this clearly remains a priority area for in-depth investigation using culturally appropriate assessments with appropriately powered epidemiologically representative studies.

Summary

This is the first study to have compared individual needs and levels of service related satisfaction with services between prisoners resident in inpatient health care centres (HCC prisoners) and inpatients in medium secure psychiatric units (MSU inpatients). The two groups were similar, but HCC prisoners reported significantly higher levels of unmet need and were significantly less satisfied with all aspects of their care and treatment as compared to MSU inpatients. These results indicate that despite recent policy initiatives and target setting, mentally ill prisoners are not receiving the same quality and range of health care services as they could receive in NHS medium secure units.

In order to be able to understand, interpret and generally make sense of such findings there is a need to consider outcomes in relation to contextual variables such as specific standardised risk assessments, psychosocial assessments of mental state and where the patient is on their journey through treatment. Only when we begin to understand how these factors interact and combine together can we start to gauge the practical utility of incorporating outcome measures routinely throughout all levels of forensic services.

Guidelines about the treatment and management of mentally ill offenders, and the subsequent development of secure psychiatric services, can be traced back to the recommendations of the Butler Committee Report (Home Office and DHSS, 1975). While it is widely agreed that prisoners with serious mental illness should be transferred to hospital for treatment, there continues to be far less consensus about the need to transfer other prisoners with mental health problems.

Whilst the Butler Committee (1975) recommendations are laudable, they represent an ideal that cannot practically be met. The limitations imposed by high levels of morbidity in prison and the limited supply of expensive medium secure psychiatric services suggest the need for more practical options. Initiatives, such as the new services for dangerous people with severe personality disorder (Home Office/Department of Health, 1999), may provide alternatives. The development of innovative treatment approaches in certain prison settings should therefore be seen as a priority for service development and evaluation.

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Chapter 10: Appendices

Appendix A – Staffing breakdown

Appendix B – Instrument pack

Appendix C – Unit costs for service contacts

Appendix D – Information Sheet and Consent Form

Appendix A – Staffing breakdown

Appendix A – Breakdown of staff working in prisons and MSU inpatient units on census dates

Staff type	HMP Belmarsh	HMP Brixton	Cane Hill	Denis Hill Unit	Bracton Centre
General Practitioner	6	4	-	-	-
Psychiatrist	2	4	2	4.5	16
Dentist	2		-		-
Psychologist (inc. assistant psychologists)	1	2	2	4	16
Counsellor	2	-	-	-	-
Radiographer	1	-	-	-	-
Art Therapist	1	-	-	-	0.5
Occupational Therapist (inc. technical instructors)	1	-	2	4	7.5
Opticians	1	-	-	-	-
Chiropodists	1	-	-	-	-
Community Psychiatric Nurses	4	4	-	-	4
General Nurses	26	-	-	-	-
Healthcare Officers	7	4	-	-	-
Healthcare Assistants	5	2	13	32	70
Nurse Managers	3	2	1	-	5
Senior Nurses/Officers	6	13	-	-	27
RMNs (or equivalent)	13	5	14	33	21
Approved Social Workers	-	-	1.2	2.5	2

Appendix B – Instrument pack

Inverse Care Project
Background and Sociodemographics

Study Id: ☐

Hosp/Prison No. ☐

1. Site:

Belmarsh	☐1	Brixton	☐2
Bracton	☐3	DHU	☐4
Cane Hill	☐5	Community	☐6

2. Type:

Inpatient MSU NHS	☐1	Inpatient prison	☐2
Out/Day patient prison	☐3	Other	☐4

3. Current age: ☐ (years)

4. Length of current admission: ☐ (days)

5. Number of previous psychiatric admissions: ☐

6. Number of previous prison detentions: ☐

7. Last known residential postcode: ☐

8. How would you describe your Ethnicity?

White	☐1	Asian	☐2
Black Caribbean	☐3	Black Other	☐4
Not known/ref.	☐5	☐	
Mixed race	☐6		
Other (specify)	☐7		

8. Born outside UK:

Yes	☐1	No	☐2
Not known	☐9		

9. If yes, where?

Ireland	☐1	Europe	☐2
Caribbean	☐3	India	☐4
Pakistan	☐5	Bangladesh	☐6
Asia	☐7	Other (spec)	☐8
Not known	☐9	☐	
Not applicable	☐0		

10. Marital Status:

Single	☐1	Married	☐2
Widowed	☐3	Divorced/Sep	☐4
Not known	☐5	☐	
Other (specify)	☐6		

11. Where living immediately prior to incarceration/hospitalisation?

Independent housing:	Owner occupied	☐1	Council/HA	☐2
	Private rented			☐3
Supported housing:	Sheltered housing/low support			☐4
	Hostel			☐5
Other:	Squat	☐6	Roofless	☐7
	Temp Council Accom	☐8	Other (spec)	☐9
	Not known	☐99		

12. Employment immediately prior to incarceration/hospitalisation:

Unemployed/seeking work	☐1	Part-time paid	☐2
Full-time paid employment	☐3	Long-term sick	☐4
Other (spec)	☐5	Not known	☐9

13. MHA (1983) Section:

Section 2	☐1	Section 3	☐2
Section 35	☐3	Section 36	☐4
Section 37	☐5	Notional 37	☐6
Section 38	☐7	Section 37/41	☐8
Section 46	☐9	Section 47	☐10
Section 48	☐11	Section 47/49	☐12
Section 48/49	☐13	CPIA 1964	☐14
CPIA 1991	☐15		
Repatriation of Prisoners Act 1984	☐16		
Children and Young Persons Act 1933	☐17		
Section 45a	☐18	Section 45b	☐19
Informal	☐20		
Other (specify)	☐21		
Section 4	☐22		
Section 136	☐23		
Not known	☐24		

14. Prison type:

Remand	☐1	Sentenced	☐2
Section 10/3	☐3	Conv. not sentenced	☐4
Lifer	☐5	Not applicable	☐6
Not known	☐9		

15. Source of admission:

High Security Hospital	☐1
Medium Security Hospital	☐2
Low Security Hospital	☐3
Open Psych Ward	☐4
Private Facility	☐5
Home/community	☐6
Prison	☐7
PICU/locked ward	☐8
Court	☐9
Other (specify)	☐11
Not known	☐99

16. Index Offence(s):

17. Previous convictions:

Type of offence	Ever committed offence			Number of previous convictions
	Yes 1	No 0	N/K 9	N
Homicide				
Violence				
Sexual Offences				
Arson				
Property				
Acquisitive				
Other offences (specify)				

19. Recorded lifetime history of drug misuse: Yes ☐1 No ☐2 N/K ☐9

20. Recorded lifetime history of alcohol misuse: Yes ☐1 No ☐2 N/K ☐9

21. Previous hospital admissions:

Type of Hospital	Ever admitted?			Number of previous admissions
	Yes 1	No 0	N/K 9	
General Psychiatric Unit				
PICU				
Low Secure Unit				
Medium Secure Unit				
High Secure Unit				
Drug/Alcohol Unit				
Specialist Services				
Other (specify)				

22. Clinical Diagnosis (record ICD-10 code) consensus RMO view:

Primary Diagnosis ☐☐☐.☐

Secondary Diagnosis 1 ☐☐☐.☐

Secondary Diagnosis 2 ☐☐☐.☐

Secondary Diagnosis 3 ☐☐☐.☐

ICD-10 category diagnoses:

Tick appropriate ICD-10 (e.g. Paranoid schizophrenia = F20 - F29, or Schizoid Personality Disorder = F60 - F69). If patient has dual classifications, rate both primary and subsidiary classifications.

23. Case note/IMR ICD-10 categories

F00 - F09	Organic, including symptomatic, mental disorders	1	☐
F10 - F19	Mental and Behavioural disorders due to psychoactive substance use	2	☐
F20 - F29	Schizophrenia, schizotypal and delusional disorders	3	☐
F30 - F39	Mood [Affective] disorders	4	☐
F40 - F48	Neurotic, stress-related and somatoform disorders	5	☐
F50 - F59	Behavioural syndromes associated with physiological disturbances and physical factors	6	☐
F60 - F69	Disorders of adult personality disorders	7	☐
F70 - F79	Mental Retardation	8	☐
F80 - F89	Disorders of psychological development	9	☐
F90 - F98	Behavioural and emotional disorders with onset usually occurring in childhood and adolescence	10	☐
F99	Unspecified mental disorder	11	☐

24. Consensus clinical diagnoses ICD-10 categories

F00 - F09	Organic, including symptomatic, mental disorders	1	☐
F10 - F19	Mental and Behavioural disorders due to psychoactive substance use	2	☐
F20 - F29	Schizophrenia, schizotypal and delusional disorders	3	☐
F30 - F39	Mood [Affective] disorders	4	☐
F40 - F48	Neurotic, stress-related and somatoform disorders	5	☐
F50 - F59	Behavioural syndromes associated with physiological disturbances and physical factors	6	☐
F60 - F69	Disorders of adult personality disorders	7	☐
F70 - F79	Mental Retardation	8	☐
F80 - F89	Disorders of psychological development	9	☐
F90 - F98	Behavioural and emotional disorders with onset usually occurring in childhood and adolescence	10	☐
F99	Unspecified mental disorder	11	☐

25. Was self-harm documentation open on them (2052SH or equivalent) when interviewed?

Yes ☐1 No ☐2 N/A ☐8 N/K ☐9

Inverse Care Study
NABUS - placement need prison version - RMO

1. How long have you cared for the patient?

0-1 months	☐1	3-6 months	☐3	>12 months	☐5
1-3 months	☐2	6-12 months	☐4		

2. Does the patient require transfer to NHS psychiatric facilities or another placement for detention and/or treatment?

Yes	☐1
No	☐2

3. Which aspects of security, in your opinion, does the patient require?

Staffing structure	☐1	Other (specify)	☐5
Physical Security	☐2		
Process Security	☐3		
No security required	☐4		

---

4. If the patient requires transfer to alternative facilities please indicate which placement, in your opinion, does the patient now require?

Short term Medium Secure Unit (up to 2 years)	☐1
Long term Medium Secure Unit (greater than 2 years)	☐2
Acute Low Secure Unit (up to 3 months)	☐3
Short term Low Secure Unit (up to 2 years)	☐4
Long term Low Secure Unit (greater than 2 years)	☐5
Acute ward	☐6
Supported hostel or group home (with sleep-in staff, 24 hrs)	☐7
Supported hostel or group home (with daytime staff only)	☐8
Unsupported hostel or group home (no regular staffing)	☐9
Flat/ Bedsit or other independent accommodation	☐10
Home of carer/relative	☐11
Patients own home	☐12
Other general prison	☐13
Therapeutic Community	☐14
DSPD Unit	☐15
Other facility (specify)	☐16

Tick this box if question 4 not applicable

☐0

5. Why has the patient not been transferred there?

Facility does not exist currently	☐1
Referred and accepted but no beds	☐2
Referred and accepted but no funding	☐3
Home Office refused request for trial leave/transfer / discharge	☐4
Referred and accepted but MHRT refused request	☐5
Referred but not accepted for other reasons (political/offence etc)	☐6
Referred and awaiting assessment	☐7
Awaiting outcome of assessment	☐8
Patient has not been referred	☐9
Patient refused to move to placement	☐10
Other reasons (specify)	☐11

Tick this box if question 5 not applicable

☐0

Forensic Addiction Screen
(Adapted from Forshaw)

Section A: Alcohol Use

1.1 How old were you when you first drank alcohol?

years

1.2 What do you usually drink?

free text

1.3 In a typical day, what and how much would you drink (inc. strength if beer/cider etc)?

free text

1.4 How often do you drink?

Circle appropriate response in each column

Never	Rarely	Monthly	Weekly	Regularly (few times a week)	Daily
1	2	3	4	5	6

1.5. Is your drinking associated with any cultural or religious beliefs?

Yes ☐1 No ☐2 Don't Know ☐9

Explain why?

1.6 Do you think your drinking is a problem for you?

Yes ☐1 No ☐2 Don't Know ☐9

Explain why?

1.7 **Have you ever had periods (hours or so) of memory loss because of your drinking?**

Yes ☐1 No ☐2 Don't Know ☐9

1.8 **Do you ever drink on waking to make yourself better because of the previous days drinking?**

Yes ☐1 No ☐2 Don't Know ☐9

1.9 **During the last six months or so before you were detained or hospitalised...**

Circle appropriate response in each column

1.9.1 Did you ever think your drinking was out of control?	Never or almost never 1	Sometimes 2	Often 3	Always or nearly always 4
1.9.2 Did the prospect of not drinking make you anxious or worried?	Never or almost never 1	Sometimes 2	Often 3	Always or nearly always 4
1.9.3 Did you worry about your drinking?	Never or almost never 1	Sometimes 2	Often 3	Always or nearly always 4
1.9.4 Did you wish you could stop drinking?	Never or almost never 1	Sometimes 2	Often 3	Always or nearly always 4
1.9.5 Could you find it to stop or go without drinking?	Never or almost never 1	Sometimes 2	Often 3	Always or nearly always 4

2.0 **Have you ever experienced a fit after stopping drinking?**

Yes ☐1 No ☐2 Don't Know ☐9

2.1 **Have you ever had jaundice or liver problems associated with your drinking?**

Yes ☐1 No ☐2 Don't Know ☐9

2.2 **Have you ever had DT's (Delirium Tremens)?**

Yes ☐1 No ☐2 Don't Know ☐9

2.3 During the year prior to admission did your drinking cause problems in the areas of your life below?

Circle appropriate response in each column

2.3.1 Relationship with partner	Never 1	Minor 2	Moderate 3	Severe 4
2.3.2 Relationship with family	Never 1	Minor 2	Moderate 3	Severe 4
2.3.3 Friendships	Never 1	Minor 2	Moderate 3	Severe 4
2.3.4 Police or Courts	Never 1	Minor 2	Moderate 3	Severe 4
2.3.5 Mental Health	Never 1	Minor 2	Moderate 3	Severe 4
2.3.6 Physical Health	Never 1	Minor 2	Moderate 3	Severe 4

2.4 When did you last drink alcohol?

Month/Year

2.5 What and how much did you drink?

Types/strength/quantity

Section B: Substance Use - Type and Frequency

3. History and frequency of use of drugs

Tick appropriate response in each column. If answer to column A No then leave rest of row blank

	Ever used **A**	Used in year before admitted **B**	Frequency of use **C**	Used since admitted **D**	Frequency of use **E**
3.1 Solvents	Yes☐1 No☐2	Yes☐1 No☐2	Once ☐1 Occ ☐2 Mth ☐3 Wk ☐4 Reg ☐5 Dly ☐6	Yes☐1 No☐2	Once ☐1 Occ ☐2 Mth ☐3 Wk ☐4 Reg ☐5 Dly ☐6
3.2 Opiates	Yes☐1 No☐2	Yes☐1 No☐2	Once ☐1 Occ ☐2 Mth ☐3 Wk ☐4 Reg ☐5 Dly ☐6	Yes☐1 No☐2	Once ☐1 Occ ☐2 Mth ☐3 Wk ☐4 Reg ☐5 Dly ☐6
3.3 Cannabis	Yes☐1 No☐2	Yes☐1 No☐2	Once ☐1 Occ ☐2 Mth ☐3 Wk ☐4 Reg ☐5 Dly ☐6	Yes☐1 No☐2	Once ☐1 Occ ☐2 Mth ☐3 Wk ☐4 Reg ☐5 Dly ☐6
3.4 Stimulants	Yes☐1 No☐2	Yes☐1 No☐2	Once ☐1 Occ ☐2 Mth ☐3 Wk ☐4 Reg ☐5 Dly ☐6	Yes☐1 No☐2	Once ☐1 Occ ☐2 Mth ☐3 Wk ☐4 Reg ☐5 Dly ☐6
3.5 Hallucinogens	Yes☐1 No☐2	Yes☐1 No☐2	Once ☐1 Occ ☐2 Mth ☐3 Wk ☐4 Reg ☐5 Dly ☐6	Yes☐1 No☐2	Once ☐1 Occ ☐2 Mth ☐3 Wk ☐4 Reg ☐5 Dly ☐6
3.6 Tranquilliser	Yes☐1 No☐2	Yes☐1 No☐2	Once ☐1 Occ ☐2 Mth ☐3 Wk ☐4 Reg ☐5 Dly ☐6	Yes☐1 No☐2	Once ☐1 Occ ☐2 Mth ☐3 Wk ☐4 Reg ☐5 Dly ☐6
3.7 Other (specify)	Yes☐1 No☐2	Yes☐1 No☐2	Once ☐1 Occ ☐2 Mth ☐3 Wk ☐4 Reg ☐5 Dly ☐6	Yes☐1 No☐2	Once ☐1 Occ ☐2 Mth ☐3 Wk ☐4 Reg ☐5 Dly ☐6

3.8 Do you consider your drug taking to be a problem?

Yes ☐1 No ☐2 Don't Know ☐9

Explain why?

3.9 Is your drug taking related to your cultural or religious beliefs?

Yes ☐1 No ☐2 Don't Know ☐9

Explain why?

4. During the year prior to admission...

Circle appropriate response in each column

4.1 Did you ever think your drug use was out of control?	Never or almost never 1	Sometimes 2	Often 3	Always or nearly always 4
4.2 Did the prospect of not taking any drugs make you anxious or worried?	Never or almost never 1	Sometimes 2	Often 3	Always or nearly always 4
4.3 Did you worry about your drug use?	Never or almost never 1	Sometimes 2	Often 3	Always or nearly always 4
4.4 Did you wish you could stop?	Never or almost never 1	Sometimes 2	Often 3	Always or nearly always 4
4.5 Could you stop or go without drugs?	Never or almost never 1	Sometimes 2	Often 3	Always or nearly always 4

4.6 Have you ever injected drugs?

Yes ☐1 No ☐2 Don't Know ☐9

4.7 Have you ever had a fit after stopping benzodiazepines?

Yes ☐1 No ☐2 N/A ☐8 Don't Know ☐9

4.8 During the year prior to admission did your drug use cause problems in the areas of your life below?

Circle appropriate response in each column

4.8.1 Relationship with partner	Never 1	Minor 2	Moderate 3	Severe 4
4.8.2 Relationship with family	Never 1	Minor 2	Moderate 3	Severe 4
4.8.3 Friendships	Never 1	Minor 2	Moderate 3	Severe 4
4.8.4 Police or Courts	Never 1	Minor 2	Moderate 3	Severe 4
4.8.5 Mental Health	Never 1	Minor 2	Moderate 3	Severe 4
4.8.6 Physical Health	Never 1	Minor 2	Moderate 3	Severe 4

4.9 Have you ever been tested for Hepatitis or HIV?

Yes ☐1 No ☐2 Don't Know ☐9

Physical Health Index Revised

(Based on O'Driscoll, 1985)

Scoring is based on physical health problems during the **last month** only. It is recommended that it is completed with reference to case notes while interviewing the care co-ordinator.

Any problems in health area

0	No problems in last month
1	Problems in last month
9	Not known

Levels of disability

0	No disability - either absence of pathology or effective treatment
1	Mild disability (regardless of treatment)
2	Moderate disability (regardless of treatment)
3	Severe disability (regardless of treatment)
9	Not known

Level of care received

0	No significant pathology / needs no medical or nursing attention for this problem
1	Takes daily medication without supervision
2	Has regular appointments with GP
3	Has regular appointments with hospital specialist
4	Takes daily medication with supervision
5	Has regular but less than daily care from a nursing or paramedical service
6	Has daily nursing care
7	Has daily medical care
9	Not known

Health Area	Any problems	Level of Disability	Level of Care Received
	0, 1	0, 1, 2, 3, 9	0, 1, 2, 3, 4, 5, 6, 7, 9
1. Cardiovascular (inc. congenital)			
1.1. Coronary Heart Disease			
1.2. Ischaemic Heart Disease			
1.3. Heart murmur			
1.4. Angina			
1.5. Other (spec)			
2. Respiratory			
2.1. Asthma			
2.2. Bronchitis			
2.3. Pleurisy			
2.4. Chronic Obstructive Airways Disease			
2.5. Other (spec)			
3. Gastro-intestinal tract			
3.1. Dentist			
3.2. Irritable Bowel Syndrome			
3.3. Crohn Disease			
3.4. Kidney/gallstones			
3.5. Appendicitis			
3.6. Pancreatitis			
3.7. Other (spec)			
4. Urogenital system			
4.1. UTI's			
4.2. STD's			
4.3. Incontinence			
4.4. Other (spec)			
5. Locomotor system (loss of mobility but not due to neurological causes)			
5.1. Sciatica			
5.2. Arthritis			
5.3. Rheumatism			
5.4. Injury Based			
5.5. Congenital			
5.6. Other (spec)			
6. Central Nervous System (inc. tremor and neurological causes)			
6.1. Epilepsy			
6.2. Stroke			
6.3. Tremor			
6.4. Other (spec)			
7. Endocrine/Metabolic System			
7.1. Allergic Disorders			
7.2. Dermatological Problems			
7.3. Abnormal height/weight ratio			
7.4. Hyperthyroidism			
7.5. Cirrhosis			
7.6. Other (spec)			

8. Critical Disabilities (tick if present)

8.1. Urinary/faecal incontinence	
8.2. Impaired mobility	
8.3. Blindness	
8.4. Deafness	
8.5. Dyskinesias	

BSS

Study ID_____ Age_____ Sex_____ Date_____

Directions: Please carefully read each group of statements below. Circle the one statement in each group that best describes how you have been feeling for the past week, including today. Be sure to read all of the statements in each group before making a choice.

Part 1

1
0 I have a moderate to strong wish to live
1 I have a weak wish to live
2 I have no wish to live

2
0 I have no wish to die
1 I have a weak wish to die
2 I have a moderate to strong wish to die

3
0 My reasons for living outweigh my reasons for dying
1 My reasons for living or dying are equal
2 My reasons for dying outweigh my reasons for living

4
0 I have no desire to kill myself
1 I have a weak desire to kill myself
2 I have a moderate to strong desire to kill myself

5
0 I would try to save my life if I found myself in a life-threatening situation
1 I would take a chance on life or death if I found myself in a life-threatening situation
2 I would not take the steps necessary to avoid death if I found myself in a life-threatening situation

[If you have circled the zero statements in both Groups 4 and 5 above, then skip down to Group 20. If you have marked a 1 or 2 in either Group 4 or 5, then go to Group 6.]

Subtotal Part 1_____

Part 2

6
0 I have brief periods of thinking about killing myself which pass quickly
1 I have periods of thinking about killing myself which last for moderate amounts of time
2 I have long periods of thinking about killing myself

7
0 I rarely or only occasionally think about killing myself
1 I have frequent thoughts about killing myself
2 I continuously think about killing myself

8
0 I do not accept the idea of killing myself
1 I neither accept nor reject the idea of killing myself
2 I accept the idea of killing myself

9
0 I can keep myself from committing suicide
1 I am unsure that I can keep myself from committing suicide
2 I cannot keep myself from committing suicide

10
0 I would not kill myself because of my family, friends religion, possible injury from an unsuccessful attempt etc
1 I am somewhat concerned about killing myself because of my family, friends religion, possible injury from an unsuccessful attempt etc
2 I am not or only a little concerned about killing myself because of my family, friends religion, possible injury from an unsuccessful attempt etc

11
0 My reasons for wanting to commit suicide are primarily aimed at influencing other people, such as getting even with people, making people happier, making people pay attention to me, etc
1 My reasons for wanting to commit suicide are not only aimed at influencing other people but also represent a way of solving my problems
2 My reasons for wanting to commit suicide are primarily based upon escaping from my own problems

12
0 I have no specific plan about how to kill myself
1 I have considered ways of killing myself, but have not worked out the details
2 I have a specific plan for killing myself

13
0 I do not have access to a method or an opportunity to kill myself
1 The method that I would use for committing suicide takes time and I really do not have a good opportunity to use this method
2 I have access or anticipate having access to the method that I would choose for killing myself and also have or shall have the opportunity to use it

14
0 I do not have the courage or the ability to commit suicide
1 I am unsure that I have the courage or ability to commit suicide
2 I have the courage and the ability to commit suicide

15
0 I do not expect to make a suicide attempt
1 I am unsure that I shall make a suicide attempt
2 I am sure that I shall make a suicide attempt

16
0 I have made no preparations for committing suicide
1 I have made some preparations for committing suicide
2 I have almost finished or completed my preparations for committing suicide

17
0 I have not written a suicide note
1 I have thought about writing a suicide note or have started to write one, but have not completed it
2 I have completed a suicide note

18
0 I have made no arrangements for what will happen after I have committed suicide
1 I have thought about making some arrangements for what will happen after I have committed suicide
2 I have made definite arrangements for what will happen after I have committed suicide

19
0 I have not hidden my desire to kill myself from people
1 I have held back telling people about wanting to kill myself
2 I have attempted to hide, conceal, or lie about wanting to commit suicide

Go to Group 20 **Subtotal Part 2**_____

20
0 I have never attempted suicide
1 I have attempted suicide once
2 I have attempted suicide two or more times

If you have previously attempted suicide, please continue with the next statement group.

21
0 My wish to die during the last suicide attempt was low
1 My wish to die during the last suicide attempt was moderate
2 My wish to die during the last suicide attempt was high

Inverse Care Project
Global Assessment of Functioning (GAF) Revised

Rate lowest level of functioning in last month according to continuum

Description	Score
Absent or minimal symptoms, good functioning in all areas, interested and involved in a wide range of activities, socially effective, generally satisfied with life, no more than everyday problems or concerns	90 81
If symptoms are present, they are transient and expectable reactions to psychosocial stressors, no more than slight impairment in functioning	80 71
Some mild symptoms (depressed mood or mild insomnia) or some difficulty in functioning but generally functions pretty well, has some meaningful interpersonal relationships	70 61
Moderate symptoms (flat affect, circumstantial speech, occasional panic attacks) or moderate difficulty in functioning (e.g., few friends, conflicts with others)	60 51
Serious symptoms (suicidal ideation, severe obsessional symptoms) or any serious impairment in functioning	50 41
Some impairment in reality testing or communication (irrelevant/illogical/obscure speech) or major impairment in several areas, such as mood, relations with others, thinking or mood (e.g., socially withdrawn)	40 31
Behaviour is considerably influenced by delusions or hallucinations or serious impairment in communication of judgement (acts grossly inappropriately, suicidal preoccupation) or inability to function in almost all areas (stays in bed all day, no friends)	30 21
Some danger of hurting self or others (suicidal attempts - not serious, frequent violence) or occasionally fails to maintain minimal hygiene or gross impairment of communication	20 11
Persistent danger of severely hurting self or others (recurrent violence) or persistent inability to maintain minimal personal hygiene or serious suicide attempt with clear expectation of death	10 0

Score

Rate symptoms in last month according to continuum

Description	Score
Absent or minimal symptoms (e.g., mild anxiety)	90 81
Symptoms transient and expectable reactions to psychosocial stressors	80 71
Some mild symptoms (e.g., depressive mood, mild insomnia)	70 61
Moderate symptoms (flat affect, circumstantial speech, occasional panic attacks)	60 51
Serious symptoms (suicidal ideation, severe obsessional rituals)	50 41
Some impairment in reality testing or communication (speech is at times illogical/obscure/irrelevant)	40 31
Behaviour is considerably influenced by delusions or hallucinations OR serious impairment in communication of judgement (acts grossly inappropriately, suicidal preoccupation)	30 21
Some danger of hurting self or others (suicidal attempts without clear expectation of death, frequent violence, manic excitement) OR gross impairment in communication (e.g., largely incoherent or mute)	20 11
Persistent danger of severely hurting self or others (recurrent violence OR serious suicidal act with clear expectation of death)	10 0

Score

Rate disability in last month according to continuum

Description	Score
Good functioning in all areas, interested and involved in a wide range of activities, socially effective, generally satisfied with life, no more than everyday problems or concerns	90 81
No more than slight impairment in social or occupational functioning	80 71
Some difficulty in social or occupational functioning, but generally functions pretty well, has some meaningful interpersonal relationships	70 61
Moderate difficulty in social or occupational functioning (few friends, conflicts with others)	60 51
Any serious impairment in social or occupational functioning (e.g., no friends, unable to keep a job)	50 41
Major impairment in several areas, such as work, family relations, judgement, thinking of mood (e.g., depressed man avoids friends, neglects family, unable to work)	40 31
Inability to function in almost all areas (e.g., stays in bed all day, no job or friends)	30 21
Occasionally fails to maintain minimal personal hygiene	20 11
Persistent inability to maintain personal hygiene	10 0

Score

Comprehensive Psychiatric Rating Scale (Åsberg *et al*, 1978)

Base score on intensity, duration and degree to which influenced by other factors
0 = no real problems
1 = mild (sometimes)
2 = moderate to severe (regular)
3 = severe to very severe (persistent)
Reported

1. Sadness
low mood, no hope
2. Elation
high spirits, exhilaration
3. Inner Tension
discomfort, edginess, panic, dread
4. Hostile Feelings
anger, aggression, hostility
5. Inability to Feel
reduced interest, no pleasure
6. Pessimistic Thoughts
guilt, sin, remorse
7. Suicidal Thoughts
thoughts and preparations
8. Hypochondriasis
unrealistic worrying/preoccupation
9. Worrying over Trifles
worry out of proportion to problem
10. Compulsive Thoughts
thoughts coming back against will
11. Phobias
unreasonable fear in situations
12. Rituals
compulsive repeating of acts/rituals
13. Indecision
cant choose between 2 simple things
14. Lassitude
difficulty getting started / slow
15. Fatiguability
tiring more easily than usual
16. Concentration Difficulties
can you collect your own thoughts
17. Failing Memory
recall getting worse

18. Reduced Appetite
loss of appetite
19. Reduced Sleep
less length or depth of sleep
20. Increased Sleep
increased length or depth of sleep

21. Reduced Sexual Appetite
compared to when well
22. Increased Sexual Interest
compared to when well
23. Autonomic Disturbance
palpitations, sweating, nausea
24. Aches and Pains
bodily discomfort from aches/pains
25. Muscular Tension
difficulty relaxing, feels tense
26. Loss of Sensation/movement
loss/impairment motor sensory function
27. Derealisation
déjà vu, perceptions of things
28. Depersonalisation
bodily change, detachment
29. Feeling controlled
being by others or can do to others
30. Disrupted Thoughts
blocking, insertion, withdrawal
31. Ideas of Persecution
suspicious, being watched
32. Ideas of Grandeur
exaggerated sense of self worth
33. Delusional Mood
trivial events having profound meaning
34. Ecstatic Experiences
rapture, blissful associations with god
35. Morbid Jealousy
absorbing preoccupation with partner
36. Other delusions

37. Commenting Voices
own thoughts discussed or others talking about you
38. Other Auditory Hallucinations
39. Visual Hallucinations
40. Other Hallucinations

Observed

41. Apparent Sadness
despondency, despair, gloom
42. Elated Mood
posture, activity, elation
43. Hostility

57. Incoherent Speech
disorganised, illogical speech
58. Perseveration
repeating phrases, actions over again
59. Overactivity
increased voluntary movements
60. Slowness of Movement

irritability, threats, violence
44. Labile Emotional Responses
rapid mood changes
45. Lack of Appropriate Emotion
blunted affect
46. Autonomic Disturbances
hyperventilation, sweating
47. Sleepiness
speech, posture
48. Distractibility
diversion of attention

49. Withdrawal
unawareness of others

50. Perplexity
bewilderment, doesn't understand situation

51. Blank Spells
stoppages, inattention while speaking
52. Disorientation
time place questions
53. Pressure of Speech
increased flow of speech
54. Reduced Speech
slowed speech long delays
55. Specific Speech Defects
stutter, asphasia
56. Flight of Ideas
rapid flow of ideas, incoherence

decrease in range/extent movements
61. Agitation
restlessness, fiddling
62. Involuntary Movements
tics, tremors
63. Muscular Tension
tenseness
64. Mannerisms and postures
repeated or stereotypical movements
65. Hallucinatory Behaviour
odd behaviour indicative of hallucinations
66. Global Rating of Illness
0 - absence of illness
1 - minimal illness
2 - moderate/definite illness
3 - severe or incapacitating illness
67. Assumed reliability of rating
0 - very poor
1 - fair
2 - good
3 - very good

Use of Health Care Services - Prison Version (Byford, Thomas & McCrone, 2002)

Service use reported in last 6 months

1. Accommodation

WHAT TYPE OF ACCOMMODATION HAVE YOU LIVED IN OVER THE LAST 6 MONTHS?
HOW MANY DAYS DID YOU SPEND IN EACH TYPE OF ACCOMMODATION?

ACCOMMODATION TYPE	Name and description	Number of days in last 6 months
1. Private home – owner occupied	No details required	Days
2. Rented – private	No details required	Days
3. Rented – local authority	No details required	Days
4. Rented – housing association	No details required	Days
5. Psychiatric Hospital	Further details under Section 2	Days
6. General Hospital	Further details under Section 2	Days
7. Prison	Further details under Section 6	Days
8. Sheltered housing		Days
9. Hostel/refuge		Days
10. Bed & breakfast, hotel, lodging house		Days
11. Homeless/sleeping rough	No details required	Days
12. Other – please specify:		Days

2. Hospital contacts

Inpatient stays

	HOSPITAL	Speciality	Reason/notes	Length of stay
1				Nights
2				Nights

Outpatient attendances

	HOSPITAL	Speciality	Reason/notes	No. of attendances
1				No.
2				No.
3				No.

Day-patient attendances

	HOSPITAL	Speciality	Reason/notes	No. of attendances
1				No.

Accident and emergency attendances

	HOSPITAL	Speciality	Reason/notes	No. of attendances
1				No.
2				No.

Speciality codes

1. Forensic Psychiatry
2. General Psychiatry
3. Clinical psychology
4. Other psychology (please specify)
5. General medicine
6. General surgery
7. Other or unknown (please specify in notes)

3. Community health services

SERVICE	Number of contacts whilst in the community		Number of contacts whilst in custody		Average duration of each contact	
1. General practitioner		No.		No.		Mins
2. Practice nurse		No.		No.		Mins
3. Psychiatrist (specify: Consultant / SpR / SHO / locum etc)		No.		No.		Mins
4. Community Psychiatric Nurse		No.		No.		Mins
5. Health visitor or other community nurse		No.		No.		Mins
6. Psychologist		No.		No.		Mins
7. Counsellor/ therapist		No.		No.		Mins
8. Psychotherapist		No.		No.		Mins
9. Occupational Therapy		No.		No.		Mins
10. Group Therapy		No.		No.		Mins
11. Drug and alcohol counsellor/ support worker		No.		No.		Mins
12. Other – please specify:		No.		No.		Mins

4. Social services

SERVICE	No. of contacts whilst in the community	No. of contacts whilst in custody	Average duration of each contact
1. Social worker	No.	No.	Mins
2. Support worker	No.	No.	Mins
3. Other – please specify:	No.	No.	Mins

5. Voluntary sector services

SERVICE	Name and description of service	Number of contacts	Average duration of each contact
1. Day centre		No.	Mins
2. Drop-in centre		No.	Mins
3. Housing assoc/other housing support agency		No.	Mins
4. CAB or other advice service		No.	Mins
5. Samaritans/other telephone help line		No.	Mins
6. Drug and alcohol service		No.	Mins
7. Other organised prison visitors:		No.	Mins
8. Prison listeners:		No.	Mins
9. Other - please specify:		No.	Mins

6. Criminal justice

SERVICE	Notes	Number of contacts	Average duration of each contact
1. Probation officer		No.	Mins
2. Contacts with solicitor or other legal rep	Legal aid?	No.	Mins
3. Contacts with police (exclude victim or witness to crime)		No.	Mins
4. Court appearances (exclude victim or witness to crime)		No.	Mins
5. Crimes committed	1.	No.	
(Give number of crimes committed by type of crime and specify type)	2.	No.	
	3.	No.	
6. Days in prison	1.	Days	
(For each episode, specify location)	2.	Days	
	3.	Days	
7. Days in police custody/remand		Days	

7. Chaplaincy

1. One-to-one sessions		No.		Mins
2. Group (traditional services)		No.		Mins
3. Other: please specify		No.		Mins

8. Psychotropic medication

THIS SECTION SHOULD INCLUDE PSYCHOTROPIC MEDICATION ONLY. PLEASE IGNORE ALL OTHER MEDICATION.

Medication	Dosage	Date of first dose	Ongoing	Date of final dose
1.		D M Y	Yes ρ1 No ρ2	D M Y
2.		D M Y	Yes ρ1 No ρ2	D M Y
3.		D M Y	Yes ρ1 No ρ2	D M Y
4.		D M Y	Yes ρ1 No ρ2	D M Y

VERONA SERVICE SATISFACTION SCALE (VSSS-54)
INVERSE CARE STUDY

PATIENT VERSION

THIS QUESTIONNAIRE ASKS ABOUT YOUR EXPERIENCE OF THE MENTAL HEALTH SERVICES OFFERED LOCALLY

It is very important that you answer **truthfully**; please express your opinion **whatever it is**. We are especially interested to know about your **criticisms** and about **problems** you have had with the services.

All your answers will be treated **confidentially**. Your answers will not be discussed with the professionals working in the service or your relatives.

Please feel free to ask the researcher for help if a question is not clear
or if you encounter any problem in filling in the questionnaire.
Please read the questions very carefully and take your time before answering.
It is very important that every answer expresses your true opinion.

IN THE FOLLOWING PAGES WE ASK YOU ABOUT YOUR EXPERIENCES IN USING THE LOCAL MENTAL HEALTH SERVICES DURING THE LAST YEAR.

Please mark the answer which best describes your overall impression in using the local mental health services during the last year.
You can use one of these options:

1. Terrible

2. Mostly dissatisfied

3. Mixed

4. Mostly satisfied

5. Excellent

Please choose the answer that is the best description of your experience in using the local mental health services over the **last year**:

WHAT IS YOUR OVERALL FEELING ABOUT THE.....

1. effect of services in helping you deal with your problems

1. Terrible 2. Mostly dissatisfied 3. Mixed 4. Mostly satisfied 5.Excellent

2. behaviour and manners of reception or secretarial staff on the telephone or when you meet them

5. Excellent 4. Mostly satisfied 3. Mixed 2. Mostly dissatisfied 1. Terrible

3a. professional knowledge and competence of psychiatrists

1. Terrible 2. Mostly dissatisfied 3. Mixed 4. Mostly satisfied 5.Excellent

3b. professional knowledge and competence of psychologists

5. Excellent 4. Mostly satisfied 3. Mixed 2. Mostly dissatisfied 1. Terrible

4. the appearance, comfort level and physical layout of the facilities (e.g. the waiting rooms and the offices)

1. Terrible 2. Mostly dissatisfied 3. Mixed 4. Mostly satisfied 5.Excellent

5a. ability of psychiatrists to listen to and understand your problems

5. Excellent 4. Mostly satisfied 3. Mixed 2. Mostly dissatisfied 1. Terrible

5b. ability of psychologists to listen to and understand your problems

1. Terrible 2. Mostly dissatisfied 3. Mixed 4. Mostly satisfied 5.Excellent

6a. personal manner of psychiatrists

5. Excellent 4. Mostly satisfied 3. Mixed 2. Mostly dissatisfied 1. Terrible

6b. personal manner of psychologists

1. Terrible 2. Mostly dissatisfied 3. Mixed 4. Mostly satisfied 5.Excellent

7. punctuality of the professionals when you come for an appointment

5. Excellent 4. Mostly satisfied 3. Mixed 2. Mostly dissatisfied 1. Terrible

8. cost of the service to you (e.g. prescription charges)

1. Terrible 2. Mostly dissatisfied 3. Mixed 4. Mostly satisfied 5.Excellent

9. effect of services in attaining wellbeing and preventing relapse

5. Excellent 4. Mostly satisfied 3. Mixed 2. Mostly dissatisfied 1. Terrible

10. confidentiality and respect for your rights

1. Terrible 2. Mostly dissatisfied 3. Mixed 4. Mostly satisfied 5.Excellent

11. amount of help you have received

5. Excellent 4. Mostly satisfied 3. Mixed 2. Mostly dissatisfied 1. Terrible

12. explanations of specific procedures or approaches used

1. Terrible 2. Mostly dissatisfied 3. Mixed 4. Mostly satisfied 5.Excellent

13. effect of services in helping to relieve symptoms

5. Excellent 4. Mostly satisfied 3. Mixed 2. Mostly dissatisfied 1. Terrible

14. response of the service to crises or urgent needs during office hours

1. Terrible 2. Mostly dissatisfied 3. Mixed 4. Mostly satisfied 5.Excellent

15. arrangements made for after hour emergencies

5. Excellent 2. Mostly satisfied 3. Mixed 2. Mostly dissatisfied 1. Terrible

16a. thoroughness of psychiatrists

1. Terrible 2. Mostly dissatisfied 3. Mixed 4. Mostly satisfied 5.Excellent

16b. thoroughness of psychologists

5. Excellent 4. Mostly satisfied 3. Mixed 2. Mostly dissatisfied 1. Terrible

17. appropriate referring to your GP or other specialist if needed

1. Terrible 2. Mostly dissatisfied 3. Mixed 4. Mostly satisfied 5.Excellent

18. cooperation between service providers (if you are treated by more than one professional)

5. Excellent 4. Mostly satisfied 3. Mixed 2. Mostly dissatisfied 1. Terrible

19. publicity or information about available mental health services

1. Terrible 2. Mostly dissatisfied 3. Mixed 4. Mostly satisfied 5.Excellent

20. kinds of service offered

5. Excellent 4. Mostly satisfied 3. Mixed 2. Mostly dissatisfied 1. Terrible

21. in an overall, general sense, the service you have received

1. Terrible 2. Mostly dissatisfied 3. Mixed 4. Mostly satisfied 5.Excellent

22a. professional knowledge and competence of nurses

5. Excellent 4. Mostly satisfied 3. Mixed 2. Mostly dissatisfied 1. Terrible

22b. professional knowledge and competence of social workers

1. Terrible 2. Mostly dissatisfied 3. Mixed 4. Mostly satisfied 5.Excellent

23. recommendations made to your closest relative about how they could help you

5. Excellent 2. Mostly satisfied 3. Mixed 2. Mostly dissatisfied 1. Terrible

24. effectiveness of the service in helping you improve your knowledge and understanding of your problems

1. Terrible 2. Mostly dissatisfied 3. Mixed 4. Mostly satisfied 5.Excellent

25a. personal manners of nurses

5. Excellent 2. Mostly satisfied 3. Mixed 2. Mostly dissatisfied 1. Terrible

25b. personal manners of social workers

1. Terrible 2. Mostly dissatisfied 3. Mixed 2. Mostly satisfied 5.Excellent

26. effectiveness of the service in improving the relationship between you and your closest relative

5. Excellent 4. Mostly satisfied 3. Mixed 2. Mostly dissatisfied 1. Terrible

27. effectiveness of the service in helping your closest relative improve their understanding of your problems

1. Terrible 2. Mostly dissatisfied 3. Mixed 4. Mostly satisfied 5.Excellent

28. nurses' knowledge about you and your medical history

5. Excellent 4. Mostly satisfied 3. Mixed 2. Mostly dissatisfied 1. Terrible

29. how information was given to you about your problem (diagnosis) and what to expect (prognosis)

1. Terrible 2. Mostly dissatisfied 3. Mixed 4. Mostly satisfied 5.Excellent

30a. ability of psychiatrists to listen to and understand the worries your closest relative may have about you

5. Excellent 4. Mostly satisfied 3. Mixed 2. Mostly dissatisfied 1. Terrible

30b. ability of psychologists to listen to and understand the worries your closest relative may have about you

1. Terrible 2. Mostly dissatisfied 3. Mixed 4. Mostly satisfied 5.Excellent

31. effectiveness of the service in helping you establish good relationships with people outside your family (e.g. friends, neighbours, colleagues at work, etc.)

5. Excellent 4. Mostly satisfied 3. Mixed 2. Mostly dissatisfied 1. Terrible

32. how information was given to your closest relative about your problem (diagnosis) and what to expect (prognosis)

1. Terrible 2. Mostly dissatisfied 3. Mixed 4. Mostly satisfied 5.Excellent

33. instructions on what to do on your own between appointments; the clarity, practicality etc. of recommendations

5. Excellent 4. Mostly satisfied 3. Mixed 2. Mostly dissatisfied 1. Terrible

34. effectiveness of the service in helping you improve your self-care (e.g. take care of your personal hygiene, your diet, your room)

1. Terrible 2. Mostly dissatisfied 3. Mixed 4. Mostly satisfied 5.Excellent

35a. thoroughness of nurses

5. Excellent 4. Mostly satisfied 3. Mixed 2. Mostly dissatisfied 1. Terrible

35b. thoroughness of social workers

1. Terrible 2. Mostly dissatisfied 3. Mixed 4. Mostly satisfied 5.Excellent

36. effectiveness of the service in helping your closest relative deal better with your problems

5. Excellent 4. Mostly satisfied 3. Mixed 2. Mostly dissatisfied 1. Terrible

37a. ability of nurses to listen to and understand your problems

1. Terrible 2. Mostly dissatisfied 3. Mixed 4. Mostly satisfied 5.Excellent

37b. ability of social workers to listen to and understand your problems

5. Excellent 4. Mostly satisfied 3. Mixed 2. Mostly dissatisfied 1. Terrible

38. effectiveness of the service in helping you improve your ability to work

1. Terrible 2. Mostly dissatisfied 3. Mixed 4. Mostly satisfied 5.Excellent

39. help you have received for side effects from medications (if occurred)

5. Excellent 4. Mostly satisfied 3. Mixed 2. Mostly dissatisfied 1. Terrible

40. continuity of care (seeing the same staff) you have received

1. Terrible 2. Mostly dissatisfied 3. Mixed 4. Mostly satisfied 5.Excellent

41. in the last year, did you have prescriptions of medication?

YES (if you answered YES, please answer the following question):
- What is your overall feeling about this/them?

1. Terrible
2. Mostly dissatisfactory
3. Mixed
4. Mostly satisfactory
5. Excellent

NO (if you answered NO, answer the following question):
- Do you think you would have liked to receive this/them?

6. NO 7. DON'T KNOW 8. YES

42. in the last year, did you receive help from staff to improve your capacity to cope with your social and working life (e.g. going to public offices, doing housework, getting on with your family and others)**?**

YES (if you answered YES, please answer the following question):
- What is your overall feeling about this/them?

5. Excellent
4. Mostly satisfactory
3. Mixed
2. Mostly dissatisfactory
1. Terrible

NO (if you answered NO, answer the following question):
- Do you think you would have liked to receive this/them?

6. NO 7. DON'T KNOW 8. YES

43. in the last year, did you have the opportunity to meet alone, on a regular basis, with your therapist (e.g. in order to help you understand your problems and/or change your behaviour in some way)**?**

YES (if you answered YES, please answer the following question):
- What is your overall feeling about this/them?

1. Terrible
2. Mostly dissatisfactory
3. Mixed
4. Mostly satisfactory
5. Excellent

NO (if you answered NO, answer the following question):
- Do you think you would have liked to receive this/them?

6. NO 7. DON'T KNOW 8. YES

44. in the last year, did you have compulsory treatment in a psychiatric hospital?

YES (if you answered YES, please answer the following question):
- What is your overall feeling about this/them?

5. Excellent
4. Mostly satisfactory
3. Mixed
2. Mostly dissatisfactory
1. Terrible

NO (if you answered NO, answer the following question):
- Do you think you would have liked to receive this/them?

6. NO 7. DON'T KNOW 8. YES

45. in the last year, did you have meetings with your family and therapist (with the aim of improving/changing the relationships between family members)**?**

YES (if you answered YES, please answer the following question):
- What is your overall feeling about this/them?

1. Terrible
2. Mostly dissatisfactory
3. Mixed
4. Mostly satisfactory
5. Excellent

NO (if you answered NO, answer the following question):
- Do you think you would have liked to receive this/them?

6. NO 7. DON'T KNOW 8. YES

46. in the last year, did you have a place in sheltered accommodation (e.g foster home, group home, hostel with staff available for help)**?**

YES (<u>if you answered YES</u>, please answer the following question):
- What is your overall feeling about this/them?

5. Excellent
4. Mostly satisfactory
3. Mixed
2. Mostly <u>dis</u>satisfactory
1. Terrible

NO (<u>if you answered NO</u>, answer the following question):
- Do you think you would have liked to receive this/them?

6. NO 7. DON'T KNOW 8. YES

47. in the last year, did you have the opportunity to take part in leisure activities organized by the mental chealth services?

YES (<u>if you answered YES</u>, please answer the following question):
- What is your overall feeling about this/them?

1. Terrible
2. Mostly <u>dis</u>satisfactory
3. Mixed
4. Mostly satisfactory
5. Excellent

NO (<u>if you answered NO</u>, answer the following question):
- Do you think you would have liked to receive this/them?

6. NO 7. DON'T KNOW 8. YES

48. in the last year, did you have group psychotherapy (e.g. meetings of a group of patients with one or more therapist with the aim of improving the patients understanding of their problems and/or change their behaviour)?

YES (if you answered YES, please answer the following question):
- What is your overall feeling about this/them?

5. Excellent
4. Mostly satisfactory
3. Mixed
2. Mostly dissatisfactory
1. Terrible

NO (if you answered NO, answer the following question):
- Do you think you would have liked to receive this/them?

6. NO 7. DON'T KNOW 8. YES

49. in the last year, did you have any sheltered work?

YES (if you answered YES, please answer the following question):
- What is your overall feeling about this/them?

1. Terrible
2. Mostly dissatisfactory
3. Mixed
4. Mostly satisfactory
5. Excellent

NO (if you answered NO, answer the following question):
- Do you think you would have liked to receive this/them?

6. NO 7. DON'T KNOW 8. YES

50. in the last year, did you have a voluntary admission to a psychiatric hospital?

YES (<u>if you answered YES</u>, please answer the following question):
- What is your overall feeling about this/them?

5. Excellent
4. Mostly satisfactory
3. Mixed
2. Mostly <u>dis</u>satisfactory
1. Terrible

NO (<u>if you answered NO</u>, answer the following question):
- Do you think you would have liked to receive this/them?

6. NO 7. DON'T KNOW 8. YES

51. in the last year, did you have practical help at home from the service (e.g. companionship, home help, etc.)**?**

YES (<u>if you answered YES</u>, please answer the following question):
- What is your overall feeling about this/them?

1. Terrible
2. Mostly <u>dis</u>satisfactory
3. Mixed
4. Mostly satisfactory
5. Excellent

NO (<u>if you answered NO</u>, answer the following question):
- Do you think you would have liked to receive this/them?

6. NO 7. DON'T KNOW 8. YES

52. in the last year, did you have help from the service obtaining welfare benefits or exemptions (e.g. Disability Allowance, Council Tax, etc.?

YES (if you answered YES, please answer the following question):
- What is your overall feeling about this/them?

5. Excellent
4. Mostly satisfactory
3. Mixed
2. Mostly dissatisfactory
1. Terrible

NO (if you answered NO, answer the following question):
- Do you think you would have liked to receive this/them?

6. NO 7. DON'T KNOW 8. YES

53. in the last year, did you have help from the service finding open employment?

YES (if you answered YES, please answer the following question):
- What is your overall feeling about this/them?

1. Terrible
2. Mostly dissatisfactory
3. Mixed
4. Mostly satisfactory
5. Excellent

NO (if you answered NO, answer the following question):
- Do you think you would have liked to receive this/them?

6. NO 7. DON'T KNOW 8. YES

54. in the last year, did you receive help from the service to join in leisure activities separate from the mental health services? (e.g. sport clubs, adult education, etc.)

YES (if you answered YES, please answer the following question):
- What is your overall feeling about this/them?

5. Excellent
4. Mostly satisfactory
3. Mixed
2. Mostly dissatisfactory
1. Terrible

NO (if you answered NO, answer the following question):
- Do you think you would have liked to receive this/them?

6. NO 7. DON'T KNOW 8. YES

PLEASE, WRITE YOUR COMMENTS

The things I have liked most about my experience of local mental health services is:

.....

.....

.....

.....

.....

The things I have disliked most about my experience of local mental health services is:

.....

.....

.....

.....

Appendix C - Unit costs for service contacts

Appendix C - Unit costs for service contacts

Unit costs for service related contacts were ascertained from multiple sources (see below).

As of April 2004, the Department of Health acquired the overall responsibility for healthcare services in prisons, commissioned via local arrangements with Primary Care Trusts (PCTs). For this reason generic service costs, published annually by the Policy and Social Science Research Unit (PSSRU) at the University of Canterbury at Kent, were used. Annual costs for 2003 were used as this represented a significant proportion of the period when the face-to-face interviews were completed. The following unit costs were taken/adapted from Netten & Curtis (2003):

AREA/DOMAIN	**COST**
ACCOMMODATION	
Psychiatric/General Inpatient Hospital Stays (see below)	£67,000 acute bed £107,000 MSU £107,000 high sec bed
Psychiatric/General Outpatient Hospital Visits	£52 per day
Psychiatric/General Day patient Attendances (as outpatient)	£52 per day
Accident & Emergency visits	£57 per attendance
Prison	(see below)
Sheltered housing	£180 per week establishment costs
Hostel	£395 per week establishment costs
Bed and Breakfast (estimated)	£25 per night
HEALTH CONTACTS	**Cost per hour of patient contact**
General Practitioner	£127
Practice Nurse	£31
Consultant Psychiatrist	£210
Community Psychiatric Nurse / Inpatient Primary Nurse	£70
Clinical Psychologist	£66
Counsellor	£32
Psychotherapist (costed as Clinical Psychologist)	£66
Occupational Therapy	£41
Group Therapy (inc. drug and alcohol groups) costed as clinical psychologist divided by number of people in the group, or where not known divided by ten – taken as an estimate of group size.	£66 / group size n
Chiropodist	£19
SOCIAL SERVICE AND OTHER RELATED	**Cost per hour of patient contact**
Social Worker	£93
Prison listener	No cost
Probation Officer (costed same as Social Worker)	£93
Chaplaincy	£29 per hour

Group religious services costed as chaplaincy divided by the number of people in the group, or where not known divided by ten as an estimate of group size.	£29 / group size n

The cost per telephone contact with **The Samaritans** was calculated from direct discussions with a representative from the Samarians organisation, costed as:

Item	**Cost per contact**
One-to-one conversation	£2.19

Contacts with **criminal solicitors /legal representatives** were taken from remuneration costs for London published on:

www.legalservices.gov.uk/cds/general_criminal_contract_rio.pdf

Item	**London cost**
Preparation	£52.55
Travel and waiting	£26.30
TOTAL	**£78.85 per hour**

The cost of **court appearances** were taken from *'The Cost of Criminal Justice'*, a Home Office publication for the financial year 1997-1998. Inflationary rises as listed in Netten & Curtis (2003) were applied for the most recent financial year (2002).

The costs of prison sentences imposed by the Magistrates and Crown Courts cited here include the average length of stay in prison associated with sentences so represent some bed and board costs as well as organisational and running costs which cannot easily be separated out.

www.homeoffice.gov.uk/rds/pdfs/r103.pdf

Item	**Cost in 1997/1998**	**Cost for 2002 (97/98 cost x 177.6/156.5**
Average cost of Magistrates court proceeding	£550	£624
Average cost of Crown Court proceeding	£8,600	£9760
Average cost of prison sentence imposed at magistrates court (average time in jail)	£4950	£5328
Average cost of a prison sentence imposed at the Crown Court (average time in jail)	£30,500	£34,612

The cost of **days in prison** were taken from HM Prison Service Annual Report and Accounts 2002 – 2003. It should be noted that these daily costs would include some of the personnel (e.g., staffing) and other related prison costs. These summary figures were taken from:

www.hmprisonservice.gov.uk/filestore/1052-1458.pdf

Item	Annual Cost	Cost per day
Belmarsh	£36,082	£98.85
Brixton	£25.271	£69.24
Other as per individually specified cost or as average cost:	£22,695	£62.18

The cost of an **inpatient MSU bed** were taken from:

www.publications.parliament.uk/pa/cm199900/cmselect/cmhealth/373/0052403.htm

Item	Cost
MSU bed (average cost based on cost of high secure bed listed)	£107,000

The cost of **days in police custody** and **contacts with police** were based on the most recent reported costs cited in a 2004 newspaper article on prisons and a publication by the Revolving Doors Agency. Inflationary costs have been added to the police contacts.

www.guardian.co.uk/prisons/story/0,7369,1150452,00.html
www.revolving-doors.co.uk

Item	Cost
Cost per night in police cells	£363
Cost per hour (calculated as cost per night divided by average length of night stay estimated as 8 hours)	£45.38
Cost per hour of contact with police (from Finn *et al* paper)	£24.30

Appendix D – Information Sheet and Consent Form

Inverse Care? Comparing Needs and Satisfaction with Services between Prisoners in Health Care Centres and Patients in *Forensic Medium* Secure Units

Research Participants' Information Sheet

Introduction

The following information is to help you decide whether or not to take part in a research study called *Inverse Care? Comparing Needs and Satisfaction with Services between Prisoners in Health Care Centres and Patients in Forensic Medium Secure Units.* If there is anything you do not understand please ask us and we will try to help.

What is the purpose of the study?

- Despite the fact that people in prison should have access to the same quality and range of healthcare services as they would expect to be able to access in the community this may not always be the case.
- In order to make any recommendations about what needs to be done to improve these services it is necessary to understand what kind of problems and needs people with mental health problems in prisons have. In addition, we need to see how the needs of people in prison differ from the needs of people who are under the care of NHS mental health services.
- It is also important to gain an understanding of how satisfied people are with the healthcare services they are receiving and to examine the costs of providing healthcare services in different settings.
- The aim of this research study is therefore to compare needs and satisfaction with services between psychiatric patients in prison and forensic mental health teams.

Why have I been chosen?

In order to get as full a picture as possible about the problems and needs that people in prisons and forensic mental health services have we are hoping to interview a number of patients who are currently in contact with these services. These will include inpatients, outpatients and daycentre attendees in prison, and inpatients in NHS forensic mental health services in the local area. We are aiming to interview 140 patients across these different services.

Do I have to take part?

- Taking part is entirely voluntary.
- If you decide to go ahead, you can withdraw from the research at any time.
- Your decision will not affect the standard of care or treatment you receive in any way and will have no impact on your parole.
- If you decide that you do not want to take part, some routine information may be collected about you.

What will happen to me if I take part?

- You will be interviewed by a member of the research team at a time convenient to you.
- This interview will last up to one hour.
- You will be asked a number of general questions about problems you may have experienced recently (such as housing, money, or physical illnesses), any help (interventions) you may have received for these problems, to what extent these

interventions have helped with your problems, and how satisfied you are with the healthcare services you are receiving in general.
- We only need to interview you once.

Will taking part in this study be kept confidential?
- All information that is collected about individuals will be strictly confidential. However, the law does impose a limit on confidentiality in the following circumstances, and where it would be necessary to inform the prison authorities or your parole officer. These include a situation where you told a researcher that you intended to do serious harm to a named person in the future, that you intended to harm yourself, or that you intended to escape from prison custody or the hospital.
- Any information about you, which leaves the prison or hospital, will not have your name on it.

What will happen to the results of the research study?
- A report to the Department of Health will be produced by October 2004.
- Articles around the research may appear in medical journals.
- Findings about specific services will be presented to the relevant persons and at conferences.
- No individual participants will be identified in any report, publication or presentation.

Who is funding the research?
- The Department of Health. They have funded this study as a priority research area as little is currently known about the needs of people in prisons and forensic mental health services.

Who has reviewed the study?
This research study has been reviewed by the following Research Ethics Committees:
- The Institute of Psychiatry.
- The Multi Centre Research Ethics Committee (covering mental health services in the South-East Region of England).
- The Prison Governors at the two prisons have also approved the study.

Contact for further information
If you would like any further information or have any future queries, please contact your care co-ordinator who will forward question to me.

THANK YOU VERY MUCH FOR TAKING PART IN THIS RESEARCH STUDY

Site Number: ☐

Patient Identification Number: ☐

Consent form

Title of Project: Inverse Care? Comparing Needs and Satisfaction with Services between Prisoners in Health Care Centres and Patients in Forensic Medium Secure Units

Name of Researcher: _____

		Please initial box
1.	I confirm that I have read and understood the information sheet dated January 2003 (Version 2.0) for the above study and have had the opportunity to ask questions.	☐
2.	I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical care or legal rights being affected.	☐
3.	I understand that sections of any of my medical notes may be looked at by responsible individuals from the Institute of Psychiatry or from regulatory authorities where it is relevant to my taking part in research. I give permission for these individuals to have access to my records.	☐
4.	I agree to take part in the above study.	☐
5.	I agree that the researcher can interview my care co-ordinator and access my medical or prison notes.	☐

_____ Name of Patient	_____ Date	_____ Signature
_____ Name of person taking Consent (if different from researcher)	_____ Date	_____ Signature
_____ Researcher	_____ Date	_____ Signature

(1 for patient, 1 for researcher, 1 to be kept with hospital notes)